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Scientific, Technical and Economic Committee for Fisheries (STECF) - Evaluation of Fishing Effort Regimes in European Waters - Part 2 (STECF-12-16)

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2012

This report was reviewed by the STECF during its 41th plenary meeting held from 5-9 November 2012, Brussels, Belgium.

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SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF)

EVALUATION OF FISHING EFFORT REGIMES IN EUROPEAN WATERS PART 2 (STECF-12-16)

THIS REPORT WAS REVIEWED DURING THE PLENARY MEETING HELD IN BRUSSELS, BELGIUM 5-9 NOVEMBER 2012

Request to the STECF

STECF is requested to review the report of the **EWG-12-12** held from September 24 – 28, 2012 in Barza d'Ispra, Italy, evaluate the findings and make any appropriate comments and recommendations.

Introduction

The report of the Expert Working Group on Evaluation of fishing effort regimes in European Waters Part 2 (EWG -12-12) was reviewed by the STECF during its 41th plenary meeting held from 5-9 November 2012, Brussels, Belgium.

STECF would like to commend the members of the working group on their sterling effort in preparing such a comprehensive report. The leadership and input provided by the chair, Hajo Rätz, is particularly valuable.

STECF notes that the continuing improvements in procedures for automatic and manual checks introduced by the JRC staff have provided the group with more time to address the different ToRs as evidenced by the additional partial F analysis and the exploration of spatial catchability.

The following observations, conclusions and recommendations represent the outcomes of the STECF review.

STECF COMMENTS, OBSERVATIONS, AND CONCLUSIONS

STECF notes that following the first meeting of this Working Group STECF EWG 12-06 (11-15 June 2012 in Lisbon), a report entitled "Scientific, Technical and Economic Committee for Fisheries (STECF) - Evaluation of Fishing Effort Regimes in European Waters Part 1 (STECF-12-09) has been published. Subsequent to that work, however, some of the data used in the production of the report were revised and updated and as a result, the summary tables were amended the report corrected. Furthermore, a number of outstanding tasks and additional terms of reference addressed.

A more complete and substantive report was completed during EWG 12-12 at Barza and this report (reviewed here) now replaces the earlier one.

The improvements documented in the Report of the STECF EWG 12-12 are related to the following:

- addition of the effort regime evaluations related to Western Waters and the Deep Sea (section 5.9).

- updated section 5.3 on the effort regimes in the wider North Sea (Skagerrak, North Sea, 2 EU and Eastern Channel) due to Dutch discard data corrections and additional effort data submission.
- CPUE and LPUE estimates by fisheries and Member States for all regime evaluations provided in digital appendixes to the report. They are available at the meeting's web site:

  http://stecf.jrc.ec.europa.eu/web/stecf/ewg12

- in line with STECF comments during the 2012 summer plenary (40th plenary), provision of updated conversion factors of fishing effort transfers between donor and receiving gear groups covered by the cod plan.
- provision of updated estimates of partial fishing mortalities generated by Member States fisheries in relation to ICES estimates of total removals or catch which generated the total F estimates in the first place.
- exploratory geographical catchability analyses for the cod stocks in the Baltic and the wider North Sea.

STECF reiterates its summer plenary 2012 comments that the Expert Working Group extensively addressed the ToR regarding the fishing effort regime evaluations for the following areas:

1. Eastern and Western Baltic,
2. the Kattegat,
3. the Skagerrak, North Sea, European waters in ICES Div.2 and the Eastern Channel,
4. to the West of Scotland,
5. Irish Sea,
6. Celtic Sea,
7. Atlantic waters off the Iberian Peninsula,
8. Western Channel,
9. Western Waters and Deep Sea, and the
10. Bay of Biscay.

STECF EWG 12-12 tasks have been supported by the DCF fishing effort data call in 2012. STECF notes a general improvement in data completeness and quality as well as compliance by Member States with data provision deadlines. However, the work of STECF EWG 12-12 was again compromised by some important data omission, submission delays, incomplete data and erroneous data submissions and re-submission. Details about the DCF data call definitions, data quality in 2012 and significant shortfalls as identified by JRC and the experts contributing to the working group are summarized in section 4.

STECF notes that the aggregations of fisheries parameters presented, such as landings, discard estimates and fishing effort are consistent with the fisheries definitions in various regulations, i.e. annual TAC and Quota regulations and the stock specific multiannual management plans defined in the ToR.

STECF notes that it's evaluations related to the evaluation of the effects of the particular sub-articles 13.2.a-d of the Multiannual Cod Plan, in particular the presentation of fisheries specific fishing effort, landings and discards as well as estimations of partial fishing mortalities have been supported by data called by DG MARE from Member States and provided to STECF EWGs 12-06 and 12-12. Such specific data formats were defined by STECF during its spring plenary in 2012 (39th plenary). While Denmark, France, Germany, and Ireland submitted relevant information on the application of specific provisions of article 13 2.a-d, UK only provided figures of fishing effort by area and gear and only for the TAC year 2011, which is not fully compatible with the calendar year and thus was not used by the STECF EWG. STECF based its assignments of the articles 13 2a-d to the fisheries specific catch and effort data using national declarations provided as background documents.

STECF notes that all resulting fisheries parameters of various fishing effort regimes, including those defined for the outstanding Western Waters and Deep Sea regime evaluations are downloadable at the requested aggregation in the format of digital Appendixes to the present report at the working group's web page: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

The STECF EWG 12-12 carried out exploratory evaluations of spatio-temporal catchability patterns for the Baltic and the wider North Sea and noted that the resulting patterns of catchability in both management areas are to be considered provisional and should not be used as a basis for management advice. At present the catch per rectangle is derived from reported landings figures plus an estimate of discards. Catchability is expressed as an index, which represents the risk of an individual fish being caught. In general, it appears that the spatial extent of catchability is wider and more evenly distributed over the various statistical rectangles analysed, than that implied by the spatial distribution of catch and effort for the different fisheries.

STECF notes that the additional ToRs given to EWG 12-12 cover two major elements. The first element requests an evaluation of a particular method as proposed in STECF-12-13[1] to move from an F-based approach in Article 13 of the cod plan, to one based more directly on catch. STECF notes that Article 13 gives the MS the competence to monitor and to manage the partial Fs of the regulated gear groups in-year and requires the MS to justify the buy-back of fishing effort, in particular related to paragraph 13.2.c. STECF has previously commented that use of the fishing mortality rate approach critically depends on the availability of an assessment generating an estimate of fishing mortality. Furthermore, the use of this metric is somewhat 'removed' from the day to day experience of fishermen operating cod catch reduction schemes. STECF notes that the proposed catch based method is simple and theoretically, may work under certain conditions further explained in section 4.11 of the EWG 12-12 Report. Of prime importance is the need for a clear catch target for fishermen to work to and a requirement to fully account for all of their catch.

The second element of the additional ToR deals with catch options for Kattegat and the Irish Sea cod stocks in 2013. The STECF EWG did not provide catch options other than pointing to the provisions of the existing cod plan. However, the EWG 12-12 Report points out that in the specific case of the Kattegat cod stock, there is a good correlation between deployed effort and harvest rates for the main gear groupings (TR2 of DNK and SWE). While STECF has been unable to identify a direct causality between deployed effort and harvest rate, the observed correlation may indicate that a reduction in deployed effort of regulated gears may result in a reduction in fishing mortality (the effect of effort reductions in passive gears are difficult to estimate). A comprehensive STECF response to the Commission's request on catch options for cod in the Kattegat and the Irish Sea is provided in Section 7.7 of this report.

In the specific case of the Irish Sea cod, the provision of a catch option is more difficult given the available information from ICES. Furthermore, the effects of recent introductions of TR2 gears with improved selectivity should be evaluated and incorporated in any forecast but this is not presently possible. As a first step, STECF has made use of data provided in the EWG 12-12 report to provide a response to this request in Section 7.7 of this report.

Major findings arising from the effort regime evaluations conducted by the STECF EWG are summarized in the following sections, for each of the area reviews undertaken.

[1] Scientific, Technical and Economic Committee for Fisheries (STECF) - Management plans part 2 - changes to cod plans (STECF-12-13). (eds Simmonds E. J. & Millar, C.). 2012. Publications Office of the European Union, Luxembourg, EUR 25447 EN, JRC 73149, 82 pp.

Effort regime evaluation for the Baltic

STECF notes that fisheries-specific effort and catch (landings and discards) figures by Member States have been updated until and including 2011 and illustrated for both the Western and Eastern Baltic management areas as requested. The process was constrained by some incomplete data submissions in response to the 2012 DCF data call.

STECF notes that the request to estimate the uptake of permitted fishing effort could not be accomplished due to the fact that the data available were not appropriate. The EWG 12-12 has provided a recommendation regarding the specification of data required to undertake such an evaluation. STECF EWG 12-12 notes that if a fishing effort regime in the Baltic is to be maintained, it would be desirable to adopt and report more meaningful gear-specific measures of effective fishing effort that take into account vessel size and or engine power.

In area A (Sub-divisions 22-24), the decreasing trend in reported effort for regulated gear groups over the period 2002-2010, appears to have stabilised at a low level in 2011. Contrarily, the negative trend of gear groups not regulated by fishing effort continued in 2011. In area B (Subdivisions 25-28.2), the fishing effort of regulated and non-regulated gears increased in 2011 compared to the previous two years. In area C (Sub-divisions 29-32), which is not considered important for the management of cod fisheries, non-regulated gears appear to account for only a low proportion of overall cod catches from the area.

Overall, for the entire Baltic, discards of cod are estimated to be less than 10% by weight of the total cod catch. However, discard sample data are relatively poor and it is not clear how representative the estimate of less than 10% is of the true discard rate.

Significant correlations are observed between total fishing mortality of all effort regulated gears and fishing effort measured in kWdays at sea and also between fishery specific partial fishing mortalities and fishing effort in most fisheries. While good correlation does not always mean 'cause and effect', the results here suggest that management of fishing mortality by fishing effort in units of kWdays may provide a useful auxiliary measure to catch constraints and technical measures.

Effort regime evaluation for the Kattegat

STECF notes that all Member States fishing in this area have reported their effort data for 2011, including mesh size range category and derogations and the overall confidence in data coverage, data correctness and the results is high. All countries submitted effort data only for 2011, data for earlier years remained unchanged so there was no revisions to data previously submitted.

Fisheries in the Kattegat are predominantly trawl (TR2) fisheries and are almost exclusively conducted by Denmark and Sweden (86% and 13% of the total regulated effort in 2011 respectively). Beam trawls are prohibited.

There are two derogations in place in Kattegat for TR2, CPart 13 and CPart 11. Since 2010, all Danish fishing activities were performed under the cod plan's provision in article 13.2.c, while all German fishing in gear category TR2 since 2010 fell under the article 13.2.b. Only Sweden reported under the derogation article 11 in gear category TR2, achieving the <1.5% cod catch by using a sorting grid. This represented 61% of the Swedish TR2 effort in Kattegat 2011 and 16% of the total TR2 effort in the area. The Swedish sorting grid was until 2009 under the derogation IIA83b in the old cod recovery

plan (R (EC) 40/2008), and since it generates a catch composition that is very different from the TR2 'none' gear group it was decided to keep the old derogation in the tables by derogation of the present report. Both IIA83b and CPart11 are considered non-effort (unregulated) gears and are therefore not included in the effort regulated TR2 gear category in the tables and figures below (R (EC) No 1342/2008). The effort deployed by passive gears (GN1, GT and LL1) is relatively small, with a stable share of around 5% of the total regulated effort since 2005. The effort deployed by unregulated gear categories (including effort under the derogation CPart11) was 27% of the total effort in 2011.

According the ranked regulated gear groups' contributions to cod catch and landings in 2011, only the TR2 is estimated to exceed the level of the cumulative 20%.

STECF notes that information on fully documented fisheries FDF was only provided by Sweden and only for 2010. FDF fishing effort and catches appear negligible.

The estimated cod CPUE and respective effort transfer factors between donor and receiving regulated gear groups based on averages 2009-2011 are given in Table 5.3.1. Red cells have inadequate discard information supporting the catch estimate so that the conversion factor is unreliable. Yellow cells indicate sufficient sampling and green cells good sampling information.

Table 5.3.1. Effort transfer factors for different gear groupings

Kattegat									
	donor gear	receiving gear							
		GN1	GT1	LL1	TR1	TR2	TR3		CPUE
3a	GN1		1	1	0.529	0.822	1		74
3a	GT1	0.108		1	0.057	0.089	1		8
3a	LL1	0	0		0	0	1		0
3a	TR1	1	1	1		1	1		140
3a	TR2	1	1	1	0.643		1		90
3a	TR3	0	0	1	0	0			0

STECF notes that the correlations between the summed partial harvest rates for catch, landings and discards of the major fisheries and their estimated fishing efforts are highly significant. The partial harvest rates of the dominating Danish and Swedish TR2 fisheries also closely correlated with their specific effort estimates in kW days at sea. Only the Danish gill netters are lacking such correlation. While good correlation does not always mean 'cause and effect', the results here suggest that management of fishing mortality by fishing effort in units of kWdays may provide a useful auxiliary measure to catch constraints and technical measures. STECF notes however, that continued application of the effort regime under the provisions of the long-term management plan for cod stocks, is likely to lead to a significant reduction of fishing for regulated gear groups within a few years.

STECF notes that there are indications that the Danish TR2 fishery operating exclusively under Article 13.2.c has contributed to a reduction in harvest rate in 2011, mainly through a reduction in discards.

Effort regime evaluation for the Skagerrak, North Sea including 2EU and Eastern Channel

STECF notes that in this area, a substantial part of the effort is deployed by Non-European fleets (primarily Norway), which except for the part dealing with partial fishing mortalities by fishery are not accounted for in the EWG 12-12 Report. Norwegian fishing effort is reported to ICES (ICES, 2012).

Catch and effort data including special conditions in force since 2009 (CPart11 and CPart13) have been provided by all Member States with significant fishing activity in this area. As such, the data are considered to represent a complete account of fishing effort by regulated gears in the area as reported by national administrations.

Overall in 2011, regulated gears represented 69% of the total effort in area 3b. The main gears in management area 3b are demersal trawls/seines and beam trawls (51% and 42% of total 2011 regulated effort respectively). Nominal effort by both of these gear types has decreased since 2003.

STECF notes that only TR1 and TR2 gears exceed the maximum levels of fishing effort (kW days at sea) available each year as prescribed by the cod plan. This reflects the fact that it is the fisheries using these gears that have utilised the provisions of Article 13 and bought back fishing effort. The other gears remain at or significantly below their maximum available levels.

According to the ranked regulated gear groups' contributions to cod catch and landings in 2011, only the TR1 and TR2 are estimated to exceed the level of the cumulative 20%.

STECF notes that in 2011, fully documented fisheries FDF still represent a small proportion of the total effort (4.9%), but the proportion has increased compared to previous years All countries operating FDF contributed to this increase. Cod catches were recorded in fisheries using TR1, TR2, GN1 and Pots, but most catches (95.3% of the total FDF cod catches) were made by vessels using the TR1 gear. In total, 25% of cod catches by EU vessels were taken during FDF trials; 41%, 35%, 30% and 20% of English, Scottish, Danish and Dutch cod catches respectively.

The estimated cod CPUE (average 2009-2011) and respective effort transfer factors between donor and receiving regulated gear groups are given in Table 5.3.2. Red cells have inadequate discard information supporting the catch estimate so that the conversion factor is unreliable. Yellow cells indicate sufficient sampling and green cells good sampling information.

Table 5.3.2. Effort transfer factors for different gear groupings

	BT1	BT2	GN1	GT1	LL1	TR1	TR2	TR3	CPUE
3b BT1		1.000	0.197	1.000	0.599	0.190	0.693	1	190
3b BT2	0.295		0.058	0.438	0.177	0.056	0.204	1	56
3b GN1	1.000	1.000		1.000	1.000	0.965	1.000	1	964
3b GT1	0.674	1.000	0.133		0.404	0.128	0.467	1	128
3b LL1	1.000	1.000	0.329	1.000		0.317	1.000	1	317
3b TR1	1.000	1.000	1.000	1.000	1.000		1.000	1	999
3b TR2	1.000	1.000	0.284	1.000	0.864	0.274		1	274
3b TR3	0.053	0.179	0.010	0.078	0.032	0.010	0.036		10

STECF notes that the EWG 12-12 report presents, by major fisheries and Member States, cod partial fishing mortalities derived from the fishing mortality estimated by ICES (2012), the detailed STECF estimates of landings and discards volumes and the ICES estimate of total removals. Discard mortality is generally high but has been reduced significantly since 2010.

STECF notes that the correlations between the summed partial Fs for landings of the regulated fisheries and their estimated fishing efforts are highly significant although this does not necessarily indicate a causal relationship. Similarly, the partial Fs resulting from catches of Danish gill nets, TR2 from Denmark and TR1 from Germany are correlated significantly with fishing effort. Conversely, correlations between summed partial Fs for discards and effort and for catches and effort are insignificant (the latter just above the threshold $p \leq 0.05$). Furthermore, the correlation between fishing effort in kW days and partial F for the major Scottish and Danish cod fisheries using TR1 gears are not significant. Overall, this indicates that attempts to control fishing mortality by managing fishing effort in units of kWdays across the broad range of fisheries and countries operating in this area may not be appropriate. However, for specific fisheries, effort management may be useful as an auxiliary measure to catch constraints and technical measures but case-specific investigations need to be undertaken to establish whether controlling effort will deliver the intended changes in fishing mortality on cod.

STECF notes that there are indications of reductions in partial Fs on cod in 2011 for the Scottish TR1 and TR2 fisheries operating under the provisions of article 13.2.b and c of the cod plan, mainly through reductions in discard component of the catch by those fisheries. The German and French fisheries operating under the provision of article 13.2.b are either negligible or have reduced their effect in cod fishing mortalities substantially.

The STECF EWG 12-12 Report also provides partial Fs of fisheries using effort regulated gears for haddock 3an4, saithe 3an 4 (6 not included), as well as plaice and sole in 4.

STECF addressed an additional Commission request for information on some specific discard rates. STECF notes that the required discard information was in some cases scarce and inadequate for providing reliable 2011 discard estimates for specific fisheries with additional quota allocations. Notwithstanding this caveat, the landings and discards for cod by the regulated gear for the following countries and areas are summarised below:

Table 5.3.3: Specific discard rates.

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	2EU & 4	UK (incl SCO)	TR1	11145.504	1402.372	0.112

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	4	DNK	TR1	2789.625	225.694	0.075

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	3an	DNK	TR2	938.181	480.905	0.339

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	3an & 4	DNK	GN	2252.196	unknow	unknow

Effort regime evaluation for the West of Scotland

STECF notes that a full review of the effects of the fishing effort regime as the requested for the West of Scotland is not possible owing to the so called 'management line' which delimits the cod recovery zone at its western boundary. The management line cuts through units for data collection and separate fisheries parameters within and without the cod recovery zone are not available

The cod fisheries West of Scotland are primarily otter trawl fisheries. Beam trawls and static gears are hardly used. However Spanish fisheries data has not been made available for division VIa since 2010. In terms of kWdays, reported effort of regulated gears in 2011 was 50% lower than that in 2003 and 14% lower than in 2010.

The most important category in terms of cod catch and landings is TR1 with a three year average of 94-95% of the VIa cod catch (and landings) total by weight. The second most important gear category is TR2. The overall discard rate of cod (by weight) has increased in years subsequent to 2003. The rate of discarding in the TR1 gears has been between 70 and 90% over the years 2008-2011. Catches of cod by TR2 'none' have been negligible since 2009. Discard information on *Nephrops* for any gear and for all other species for non-trawl gears was not available for this report. Cod CPUE values have increased considerably for the TR1 gear type since 2005.

The estimated cod CPUE (average 2009-2011) and respective effort transfer factors between donor and receiving regulated gear groups is given in Table 5.3.4. Red cells have inadequate discard information supporting the catch estimate so that the conversion factor is unreliable. Yellow cells indicate sufficient sampling and green cells good sampling information.

Table 5.3.4. Effort transfer factors for different gear groupings

	donor gear	receiving gear							
		BT1	BT2	GN1	LL1	TR1	TR2		CPUE
3d	BT1		1	0.1	1	0.006	0.077		1
3d	BT2	1		0.1	1	0.006	0.077		1
3d	GN1	1	1		1	0.058	0.769		10
3d	LL1	1	1	0.1		0.006	0.077		1
3d	TR1	1	1	1	1		1		171
3d	TR2	1	1	1	1	0.076			13

Fishing effort deployed and respective catches taken under the FDF scheme have been received and are presented in the EWG 12-12 Report (Section 5.4.7).

STECF notes that the correlations between the summed partial Fs for catches and discards of the regulated fisheries and their estimated fishing efforts appear to be negative but are not statistically significant. The correlation between the summed partial Fs for landings and fishing effort is, however significant. The partial Fs of discards from the Scottish TR1 working under the cod plan article 13.2.b-c-d are recently increasing and dominating the fishing mortality. There are no indications that the Scottish TR1 fishery working under the article 13.2.b-c-d have contributed to a reduction in fishing mortality of cod.

STECF is unable to determine the reason why there is an absence of any significant relationship between F and effort for the greatest cod contributors to cod catches from VIa. Nevertheless from the information reported by member States, the management measures in place in VIa have not been successful in achieving a reduction in fishing mortality.

Effort regime evaluation for the Irish Sea

STECF notes that in terms of cod catches, the TR2 category (70-99mm mesh sizes) dominates, and that effort by this category was relatively stable between 2003 and 2008. An effort reduction occurred in 2009, coinciding with the introduction of the current cod plan, since then effort has remained at the reduced level. The majority of TR2 effort is now carried out under Article 13 of Coun. Reg. 1342/2008 (CPart13; ~80-99% of TR2 effort). A small amount of effort previously incorporated in CPart13 became exempt from the cod plan effort restrictions under Article 11 of the regulation (CPart11) in 2010 (3%), doubling in 2011 to 6%.

STECF notes that cod landings have continued to follow the declining trend which began in 2009. In relation to overall landings by species, *Nephrops* dominate Irish Sea landings and have been above 9000t since 2007, peaking in 2008 and 2011 with over 10000t. Discard information available within the Irish Sea is incomplete. Discard data are not available for all species and/or years within each gear grouping. In the absence of reliable discard data, STECF is unable to the extent to which the observed decline in landings is due to increased discarding to comply with year-on-year reductions in TAC or is a consequence of a decline in the fishable stock. TR2 and BT2 have the most complete data particularly in more recent years, for species like cod, haddock, hake, plaice, rays, and whiting. Over the majority of the period, TR1 land the greatest proportion of cod (~40% of the total landing), however this changed in 2011 when the proportion dropped to 35%, following a declining trend, to just below that of the TR2 gear. This placed TR2 as the top ranked gear in 2011 although demonstrating little change to 2010 proportions.

The estimated cod CPUE (average 2009-2011) and respective effort transfer factors between donor and receiving regulated gear groups is presented in Table 5.3.5. Red cells have inadequate discard information supporting the catch estimate so that the conversion factor is unreliable. Yellow cells indicate sufficient sampling and green cells good sampling information.

Table 5.3.5. Effort transfer factors for different gear groupings

	donor gear	receiving gear							
		BT2	GN1	GT1	LL1	TR1	TR2		CPUE
3c	BT2		0.02	0.12	1	0.11	1		73
3c	GN1	1		1	1	1	1		3094
3c	GT1	1	0.20		1	0.96	1		617
3c	LL1	0.01	0	0.002		0.002	0.01		1
3c	TR1	1	0.21	1	1		1		640
3c	TR2	0.95	0.02	0.11	1	0.11			69

STECF notes that there were no Fully Documented Fisheries (FDF) reported as operating within the Irish Sea in 2011.

STECF notes that the correlations between the summed partial Fs for landings of the regulated fisheries and their estimated fishing efforts are non-significant. The partial Fs of most Member State fisheries using regulated gears are not significantly correlated with their specific effort estimates. STECF notes that the lack of comprehensive discard estimates prevents reliable conclusions and should be considered when assessing management risks.

Effort regime evaluation for the Celtic Sea

For the Celtic Sea, the review of trends in fisheries specific effort and catches is presented in line with the standard gear aggregations utilised in the presentation of the multi-annual cod plan currently applying in the 4 areas described previously. This allows managers to evaluate the data with regard to a theoretical extension of the cod plan to include the Celtic Sea. The Celtic Sea is defined into two management areas, i.e. ICES Sub-divisions 7bcefghjk and ICES Sub-divisions 7fg.

Trends in fishing effort for the sensitive cod gears and non-regulated gears are given in the EWG 12-12 Report. Spanish data are not included as no data have been submitted. The demersal fisheries are dominated by the gears TR1, TR2 and BT2. Their effort measured in kWdays at sea remained stable during 2003-2007 and were reduced by about 20 % thereafter.

Discard information is scarce precluding reliable estimation of CPUE, however, estimates of LPUE of cod were available showing a significant increase in 2011.

STECF notes that the correlations between the summed partial F of catches and their specific effort estimates in kW days at sea over the main fisheries (effort regulated fisheries in the cod plan) are hardly significant in the entire Celtic Sea area (Cel 1 :7bcefghjk) for the main fisheries catching Cod (ie. French TR1 and TR2, and Irish TR1). However, these relations become significant between catches and effort for French TR1 and TR2 and remain significant for the Irish TR2 and Belgium TR2 when the area is reduced to the ICES subdivisions 7fg (Cel2). While good correlation does not always mean 'cause and effect', the results here suggest that management of fishing mortality by fishing effort in units of kWdays may provide an auxiliary measure to catch constraints and technical measures in the Cel2 area.

Effort regime evaluation for Southern hake and Norway lobster

STECF notes that the analyses presented in the EWG report are considered insufficient to fully address the specific ToR due to the unavailability of Spanish data for 2010 and 2011. Spain did not respond to the DCF data calls for fishing effort evaluations in 2011 and 2012. In addition, Portuguese discard data were resubmitted in 2012 in a format which is obviously consistent with DCF but inconsistent with the data formats and aggregation of the data calls. Therefore, discard information provided for earlier years was deleted from the data bases and could no longer be used.

Notwithstanding these difficulties the available fisheries specific parameters aggregated according to the definitions of gear groups in the Annex IIB of the annual TAC and Quota Regulations are given in the EWG report. STECF considers that the information presented is not reliable and is not representative of the fisheries and do not form a reliable basis for management decisions.

STECF notes that the fishing effort regime is by units of days at sea per vessel. STECF EWG 12-12 noted that if a fishing effort regime with regards to Southern hake and Norway lobster is to be

maintained, an appropriate measure of effective fishing effort to account for vessel size/power and gear effectiveness should be adopted.

Effort regime evaluation for the Western Channel

STECF notes the great majority of fishing effort deployed in the Western Channel is not regulated, while the two regulated gear groups, the beam trawls and the static nets, constitute a relatively small component of the overall effort deployed in this area. The reported effort in kWdays at sea of gear groups regulated by fishing effort appears to have been stable since 2009 after a major reduction in 2008.

STECF notes that sole landings are dominated by effort regulated beam trawls (61%), non-effort regulated gears, (32%, mainly otter trawl gears), and static nets (7%). STECF EWG 12-12 reiterates its observation that a relatively high percentage of sole is landed by non-effort regulated gears.

STECF notes that discard information in the Western Channel is scarce. The estimated landings and discards for sole by the regulated gear 3a (beam trawl) by UK are given in Table 5.3.6.

Table 5.3.6: Estimated landings and discards of sole in the Western Channel (VIIe)

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIC	sol	2011	7e	ENG	3a	349.807	21.961	0.059

STECF notes that the correlations between the summed partial Fs for landings of the major fisheries and their estimated fishing efforts are highly significant for the period 2005-2011. The correlation analysis excludes the years 2003 and 2004 when the data available to STECF represented only about 50% of the landings reported to ICES. The partial Fs of Belgian and English fisheries using the regulated gear 3a are closely correlated with their specific effort estimates in kW days at sea. However for the French regulated fisheries (3a and 3b), which represent just about 10% of the sole landings, the correlation between F and effort (kWdays) is statistically not significant. While good correlation does not always mean 'cause and effect', the results here suggest that management of fishing mortality by fishing effort in units of kWdays may provide a useful auxiliary measure to catch constraints and technical measures.

STECF notes that in 2011 the current fishing effort regime (days at sea per vessel) does not appear to constrain the fisheries, which have only used between 10% and 79% of the days at sea available. STECF EWG 12-12 notes that if a fishing effort regime in the Western Channel is to be maintained, an appropriate measure of effective unit of fishing effort to account for vessel size/power and gear effectiveness should be considered in any revision of the management plan for Western Channel sole. STECF concludes that fishing effort measured in kWdays at sea may represent a more appropriate measure for mobile gears, given the presented significant correlation between fishing mortality and fishing effort in kWdays at sea. STECF also considers that the lack of discard information in the assessment and forecast of fishing opportunities should be considered when assessing management risks.

Effort regime evaluation for the Western Waters and Deep Sea

In accordance with its ToR STECF presents trends in effort, catches and CPUE of defined fisheries (major gear groups) for 18 management areas within the conventional areas of ICES and CECAF. The EWG experienced extreme difficulties in preparing these data and the interpretation of them is confounded by uncertainty in the western waters data summaries for some member states most notably Portugal, France and Spain. Since these countries operate extensively in the Western Waters areas and are likely to contribute a significant proportion to the overall effort covered by respective regulations, the data shortfall implies that overall effort figures remain unreliable. STECF also notes that discard information is often scarce.

Effort within the Deep sea and Western waters has been compiled for kW*days-at-sea, GT*days-at-sea, and numbers of vessels. Within the EWF 12-12 Report, the focus is on kW*Days at sea. Information on GT*days at sea and numbers of vessels is available via the website: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

Notwithstanding the shortfalls in reported STECF concludes that effort for a number of gear groups (particularly otter trawls) and countries has declined in recent years. This is most evident in the more northerly areas. The information available also indicates that increases in longliner effort have occurred in a number of areas.

STECF notes that the information on landings quantity and composition is very detailed but in general shows reductions in the landings of a number of species across the range of areas reported. One exception is the landings of certain deep water sharks in the more southerly ICES areas. The combination of questionable effort data and absence of catch information renders the calculation of aggregated CPUEs from deep sea and western waters data rather pointless at present. However, all trends in national landings, effort and LPUE data are available via the website and can be queried further for specific needs: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

Effort regime evaluation for the Bay of Biscay

STECF notes that all analyses and presented trends exclude Spanish data, as Spain did not respond to the DCF data call for fishing effort regime evaluations. The resulting trends in fishing effort and landings need to be interpreted bearing in mind that the Spanish data are not considered and that discard information is scarce and dubious in certain cases. In general the trends indicated by the reported data and information may not be wholly representative.

STECF notes that the multiannual plan for the sustainable exploitation of the stock of sole in the Bay of Biscay (R (EC) 388/2006) stipulates provisions regarding maximum annual fishing capacity of the vessels holding the special fishing permit per Member State. STECF EWG 12-12 notes that only Belgium has provided the requested annual capacity data. STECF EWG 12-12 is therefore unable to evaluate the fishing effort regime in the Bay of Biscay, i.e. mainly to compare the trend in authorized fishing capacity with the trend in fishing mortality.

STECF notes that the French data submission on fishing effort in kWdays at sea and French landings consider special fishing permits only since 2010. STECF is therefore unable to fully evaluate the trend and uptake of the special fishing permit. STECF notes that the Belgian beam trawl fisheries have been working exclusively under the provision of the special fishing permit since 2006, and that the French gill netters, trammel netters and otter trawlers are reported to be operating with the permit since 2010 at a rate of around 30, 10 and 50% of vessels, respectively. The vessels holding the permits appear to be taking the great majority of sole landing in 2010 and 2011.

STECF notes that the correlations between the summed partial Fs for landings (discard data are scarce) of the major fisheries and their estimated fishing efforts are in general not significant (except for the trammel fishery of France). Hence it STECF is unable to determine whether management of fishing effort in units of kW days is likely to be an effective auxiliary measure to catch constraints and technical measures to control fishing mortality. STECF notes that the lack of discards prevents reliable conclusions to be drawn and this should be taken into account when assessing management risks.

STECF Recommendations

In addition to all of the foregoing evaluation work, STECF has the generic task of reviewing the DCF data call in 2012 to support fishing effort regime evaluations. STECF has two technical recommendations to DG MARE regarding the forthcoming DCF data call 2013 to support fishing effort regime evaluations as compared to the one issued in 2012.

First recommendation

STECF notes that the DCF data call in 2012 to support fishing effort regime evaluations is not fully consistent with the ToR. Thus, the EWG could not fully address the tasks for the Baltic regime, i.e. to assess the fishing activity measured in days absent from port (according to definitions adopted in R(EC) No 1098/2007). STECF recommends that in the Effort Data Call for 2013, the Table D should include an additional fishing effort parameter called "fishing activity" in units of days. The additional parameter shall be specific by country, year, vessel-length, area (A or B) and gear (regulated=REGGEAR or un-regulated=NONGEAR).

Second recommendation

STECF EWG 12-12 notes that FDF has been implemented for sole in the Western Channel in 2012 (Council Reg N 43/2012, EU TAC and Quota regulation for 2012). STECF EWG 12-12 recommends to DG MARE that, if catches and effort under FDF in the Western Channel are to be analysed in 2013, the respective DCF fishing effort data call shall consider an additional specific code in Appendix 6 called "FDFIIC".

REPORT TO THE STECF

EXPERT WORKING GROUP ON
FISHING EFFORT REGIME EVALUATIONS
PART 2 (EWG-12-12)

BARZA D'ISPRA, 24-28 SEPTEMBER 2012

This report does not necessarily reflect the view of the STECF and the European Commission and in no way anticipates the Commission's future policy in this area

1 EXECUTIVE SUMMARY

STECF EWG 12-12 notes that the present report repeals the report of its first meeting STECF EWG 12-06 (11-15 June 2012 in Lisbon), published earlier this year as STECF report and entitled "Scientific, Technical and Economic Committee for Fisheries (STECF) - Evaluation of Fishing Effort Regimes in European Waters Part 1 (STECF-12-09). Such earlier report from the first meeting was corrected, updated and supplemented with outstanding tasks and additional Terms of Reference.

The added value derived from the deliverables of STECF EWG 12-12 in the present report are related to

- addition of the effort regime evaluations related to Western Waters and the Deep Sea (section 5.9).
- updated section 5.3 on the effort regimes in the wider North Sea (Skagerrak, North Sea, 2 EU and Eastern Channel) due to Dutch discard data corrections and additional effort data submission.
- provision of CPUE and LPUE estimates by fisheries and Member States for all regime evaluations through digital appendixes to the report. They are available at the meeting's web site: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12
- provision of updated conversion factors of fishing effort transfers between donor and receiving gear groups eligible to the cod plan in the light of the STECF comments during the 2012 summer plenary (40th plenary).
- provision of updated estimates of partial fishing mortalities generated by Member States fisheries in relation to ICES estimates of total removals or catch.
- provisional geographical catchability analyses for the cod stocks in the Baltic and the wider North Sea.

STECF EWG 12-12 notes that it has extensively addressed the ToR regarding the fishing effort regime evaluations in the

1. Eastern and Western Baltic,
2. the Kattegat,
3. the Skagerrak, North Sea, European waters in ICES Div.2 and the Eastern Channel,
4. to the West of Scotland,
5. Irish Sea,
6. Celtic Sea,
7. Atlantic waters off the Iberian Peninsula,
8. Western Channel,
9. Western Waters and Deep Sea
10. and the Bay of Biscay.

STECF EWG 12-12 tasks have been supported by the DCF fishing effort data call in 2012. STECF EWG 12-12 notes a general improvement in data completeness and quality as well as compliance with dead lines regarding Member States' data provisions. However, STECF EWG 12-12 suffered again from lack, delays, incompleteness and erroneous data submissions and re-submission. Details about the DCF data call definitions, data quality in 2012 and significant shortfalls as identified by JRC and the experts contributing to the working group are summarized in section 4.

STECF EWG 12-12 notes that resulting aggregations of fisheries parameters, such as landings, discard estimates and fishing effort are consistent with the fisheries definitions in various regulations, i.e. annual TAC and Quota regulations and the stock specific multiannual management plans defined in the ToR.

STECF EWG 12-12 notes that it's evaluations related to the evaluation of the effects of the particular sub-articles 13.2.a-d of the Multiannual Cod Plan, in particular the presentation of fisheries specific fishing effort, landings and discards as well as estimations of partial fishing mortalities have been supported by data called by DG MARE from Member States and provided to STECF EWGs 12-06 and 12-12. Such specific data formats were defined by STECF during its spring plenary in 2012 (39th plenary). While Denmark, France, Germany, and Ireland submitted relevant information on the application of specific provisions of article 13 2.a-d, UK did provide only figures of fishing effort by area and gear and only for the TAC year 2011, which is not fully compatible with the calendar year and thus was not used by the STECF EWG. STECF EWG 12-12 did also base its assignments of the articles 13 2a-d to the fisheries specific catch and effort data using national declarations provided as background documents.

STECF EWG 12-12 notes that all resulting fisheries parameters of various fishing effort regimes, including the ones defined for the outstanding Western Waters and Deep Sea regime evaluations, are downloadable at the requested aggregation in the format of digital Appendixes to the present report at the working group's web page: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

The STECF EWG 12-12 initiated provisional evaluations regarding spatio-temporal catchability patterns for the Baltic and the wider North Sea. STECF EWG 12-12 notes that the resulting patterns of catchability in these specific management areas represent case studies and do not form the basis for any management advice. Catchability is interpreted as an index of mortality by individual fish, rather than by a given stock unit. It appears that the geographical patterns of catchability, the risk for an individual fish being caught, is wider and more evenly distributed over the various statistical rectangles analysed than the fisheries as indicated from the patterns of their catch and effort estimates.

STECF EWG 12-12 notes that the additional ToRs are covering two major elements. The first element requests an evaluation of a particular method as proposed by STECF 12-13 EWG 12-07 to move from an F based approach to a catch based approach in Article 13 of the cod plan, which is interpreted as a proposal to change Article 13. STECF EWG 12-12 notes that Article 13 does require and give the MS the competence to monitor and to manage the partial Fs of the regulated gear groups in year to justify buying back of fishing effort, in particular related to paragraph 13.2.c. STECF 12-12 notes that the proposed method is simple and may theoretically work under certain conditions further explained in section 4.11.

The second element of the additional ToR deals with catch options for Kattegat and the Irish Sea cod stocks in 2013. Given the information available, STECF EWG 12-12 is unable to provide catch options in addition to the provisions of the cod plan and its recent amendments. STECF EWG 12-12 notes that in the specific case of the Irish Sea cod, the consequences of adaptations in landings and effort cannot be quantified, so measures may be interpreted as precautionary. STECF EWG 12-12 advises also to evaluate the implementation of improved cod selectivity in TR2 fisheries operating in the Irish Sea through existing technical options. STECF EWG 12-12 notes that in the specific case of the Kattegat cod stock, there is a good correlation between major fisheries effort and harvest rates (TR2 of DNK and SWE), which indicates that further decreases in effort of regulated gears may have the effect to decrease fishing mortality. However, STECF EWG 12-12 notes that the effects of effort reductions of passive gears are difficult to be estimated.

Major findings regarding effort regime evaluations as derived by STECF EWG 12-12 are summarized in the following sections, specifically for each of the reviews undertaken.

Effort regime evaluation for the Baltic

STECF EWG 12-12 notes that fisheries specific effort and catch (landings and discards) figures by Member States have been updated until and including 2011 and illustrated for the Western as well as the Eastern Baltic management areas as requested and constrained by data submissions in response to the 2012 DCF data call.

STECF EWG 12-12 notes that the specific task to estimate the uptake of allowed fishing effort could not be accomplished due to the fact that the available data available are not compatible. The EWG 12-12 has provided a recommendation regarding the required data specification to allow such evaluation. STECF EWG 12-12 notes that if a fishing effort regime in the Baltic is to be maintained, it shall consider an appropriate measure of effective unit of fishing effort to account for vessel size/power and gear effectiveness.

In area A (Sub-divisions 22-24), the decreasing trend in gear groups regulated by fishing effort appears to be halted at a low level in 2012. Contrarily, the negative trend of gear groups not regulated by fishing effort continued in 2011. In area B (Subdivisions 25-28.2), the fishing effort of regulated and non-regulated has been slightly increasing from a low level in 2011. Area C (Sub-divisions 29-32) is considered not important for the management of cod fisheries. The contribution of non-regulated gears to cod catches appears generally low, as the contribution of discards is also estimated to range below 10%.

The close correlations between fishing mortality and fishing effort measured in kWdays at sea as well as between partial fishing mortalities and the specific fishing effort by fisheries, emphasises the fact that effective fisheries management by fishing effort in units of kWdays at sea appears possible, also as an auxiliary measure to catch constraints and technical measures.

Effort regime evaluation for the Kattegat

STECF EWG 12-12 notes that all Member States fishing in this area have reported their effort data for 2011, including mesh size range category and derogations and the overall confidence in the results is high. All countries submitted effort data only for 2011, so there was no relative change from earlier submissions.

Fisheries in the Kattegat are almost exclusively conducted by Denmark and Sweden (86% and 13% of the total regulated effort in 2011 respectively) using predominantly trawls and primarily in the gear class TR2. Beam trawls are forbidden.

There are two derogations in place in Kattegat for TR2, CPart13 and CPart11. Since 2010, all Danish fishing activities were performed under the cod plan's provision in article 13.2.c, while all German fishing in gear category TR2 since 2010 fell under the article 13.2.b. Only Sweden reported under the derogation article 11 in gear category TR2, achieving the <1.5% cod catch by using a sorting grid. This represented 61% of the Swedish TR2 effort in Kattegat 2011 and 16% of the total TR2 effort in the area. The Swedish sorting grid was until 2009 under the derogation IIA83b in the old cod recovery plan (R (EC) 40/2008), and since it generates a catch composition that is very different from the TR2 'none' gear group it was decided to keep the old derogation in the tables by derogation of the present report. Both IIA83b and CPart11 are considered non-effort (unregulated) gears and are therefore not included in the effort regulated TR2 gear category in the tables and figures below (R (EC) No 1342/2008). The effort deployed by passive gears (GN1, GT and LL1) is relatively small, with a stable share of around 5% of the total regulated effort since 2005. The effort deployed by unregulated gear categories (including effort under the derogation CPart11) was 27% of the total effort in 2011.

According the ranked regulated gear groups' contributions to cod catch and landings in 2011, only the TR2 is estimated to exceed the level of the cumulative 20%.

STECF EWG notes that information on fully documented fisheries FDF was only provided by Sweden and only for 2010. FDF fishing effort and catches appear negligible.

STECF EWG 12-12 presents the estimated cod CPUE and respective effort transfer factors between donor and receiving regulated gear groups based on averages 2009-2011. Red cells are indicated to be imprecise due to lack of adequate discard information. Yellow cells indicate sufficient sampling and green cells good sampling information.

Kattegat									
	donor gear	receiving gear							
		GN1	GT1	LL1	TR1	TR2	TR3		CPUE
3a	GN1		1	1	0.529	0.822	1		74
3a	GT1	0.108		1	0.057	0.089	1		8
3a	LL1	0	0		0	0	1		0
3a	TR1	1	1	1		1	1		140
3a	TR2	1	1	1	0.643		1		90
3a	TR3	0	0	1	0	0			0

STECF EWG 12-12 notes that the correlations between the summed partial harvest rates for catch, landings and discards of the major fisheries and their estimated fishing efforts are highly significant. The partial harvest rates of the dominating Danish and Swedish TR2 fisheries also closely correlated with their specific effort estimates in kW days at sea. Only the Danish gill netters are lacking such correlation. This indicates that effective fisheries management by fishing effort in units of kWdays at sea appears possible, also as an auxiliary measure to catch constraints and technical measures.

STECF EWG 12-12 notes that there are indications that the Danish TR2 fishery operating exclusively under Article 13.2.c has contributed to a reduction in harvest rate in 2011, mainly through a reduction in discards.

Effort regime evaluation for the Skagerrak, North Sea including 2EU and Eastern Channel

STECF EWG 12-12 notes that in this area, a substantial part of the effort is deployed by Non-European fleets (primarily Norway); this part is not accounted for in this report, except for the part dealing with partial fishing mortalities by fisheries. Norwegian fishing effort is reported to ICES (ICES, 2012)

Catch and effort data including special conditions in force since 2009 (CPart11 and CPart13) have been provided by all Member States with significant fishing activity in this area. As such, the data are considered to represent a complete account of fishing effort by regulated gears in the area as reported by national administrations.

Overall in 2011, regulated gears represented 69% of the total effort in area 3b. The main gears in management area 3b are demersal trawls/seines and beam trawls (51% and 42% of total 2011 regulated effort respectively). Nominal effort by both of these gear types has decreased since 2003.

STECF EWG 12-12 notes that only TR1 and TR2 gears exceed the maximum levels of fishing effort in kW days at sea. The other gears remain at or significantly below their maximum levels.

According the ranked regulated gear groups' contributions to cod catch and landings in 2011, only the TR1 and TR2 are estimated to exceed the level of the cumulative 20%.

STECF EWG 12-12 notes that in 2011, fully documented fisheries FDF still represent a small proportion of the total effort (4.9%), but it's increasing. All FDF countries contributed to this increase. Cod catches were recorded in fisheries using TR1, TR2, GN1 and Pots, but most catches (95.3% of total FDF cod catches) were whilst vessels were using the TR1 gear. In total, 25% of cod catches by EU vessels were taken during FDF trials; 41%, 35%, 30% and 20% of English, Scottish Danish and Dutch cod catches respectively.

STECF EWG 12-12 presents the estimated cod CPUE (average 2009-2011) and respective effort transfer factors between donor and receiving regulated gear groups. Red cells indicate imprecise values due to lack of adequate discard information. Yellow cells indicate sufficient sampling and green cells good sampling information.

	BT1	BT2	GN1	GT1	LL1	TR1	TR2	TR3	CPUE
3b BT1		1.000	0.197	1.000	0.599	0.190	0.693	1	190
3b BT2	0.295		0.058	0.438	0.177	0.056	0.204	1	56
3b GN1	1.000	1.000		1.000	1.000	0.965	1.000	1	964
3b GT1	0.674	1.000	0.133		0.404	0.128	0.467	1	128
3b LL1	1.000	1.000	0.329	1.000		0.317	1.000	1	317
3b TR1	1.000	1.000	1.000	1.000	1.000		1.000	1	999
3b TR2	1.000	1.000	0.284	1.000	0.864	0.274		1	274
3b TR3	0.053	0.179	0.010	0.078	0.032	0.010	0.036		10

The STECF EWG 12-12 presents partial fishing mortalities by major fisheries and Member States in relation to the estimated fishing mortality by ICES (2012) and the landings and discards volumes in relation to the estimated total catch for the year available. Discard mortality is generally high but has been reduced significantly since 2010.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for landings of the regulated fisheries and their estimated fishing efforts are highly significant, but insignificant between catches (just above the threshold $p \leq 0.05$) and discards. The partial Fs resulting from catches of Danish gill nets, TR2 from Denmark and TR1 from Germany are correlated significantly with fishing effort. The major Scottish and Danish cod fishery using TR1 gears do not display a significant coincidence between their partial F and fishing effort. Overall, this indicates that effective fisheries management by fishing effort in units of kWdays at sea may be possible, also as an auxiliary measure to catch constraints and technical measures. However, management of fishing effort may be difficult at a national level and requires further investigation.

STECF EWG 12-12 notes that there are indications of reductions in partial Fs from catches of the Scottish TR1 and TR2 fisheries in 2011 operating under the provisions of article 13.2.b and c of the cod plan, mainly caused by Fpar reductions in the discards of these particular fisheries. The German and French fisheries operating under the provision of article 13.2.b are either negligible or have reduced their effect in cod fishing mortalities substantially.

STECF EWG 12-12 also provides partial Fs of fisheries using effort regulated gears for haddock 3an4, saithe 3an 4 (6 not included), as well as plaice and sole in 4, respectively.

STECF EWG 12-12 notes that discard information is often scarce and inadequate to support provision of the requested 2011 discard estimates for specific fisheries with additional quota allocations. The landings and discards for cod by the regulated gear for the countries and areas are estimated as:

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	2EU & 4	UK (incl SCO)	TR1	11145.504	1402.372	0.112

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	4	DNK	TR1	2789.625	225.694	0.075

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	3an	DNK	TR2	938.181	480.905	0.339

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	3an & 4	DNK	GN	2252.196	unknow	unknow

Effort regime evaluation for the West of Scotland

STECF EWG 12-12 notes that the so-called management line to the West of Scotland, which delimits the cod recovery zone at its western boundary, prevents a full review of the fishing effort regime as the requested and analysed data are not specific to separate the fisheries parameters between within and without the cod recovery zone.

The fishery West of Scotland is primarily an otter trawl fishery; beam trawls and static gears are hardly used. However Spanish data is not available for division VIa since 2010. In terms of kWdays recorded effort of regulated gears in 2011 was 50% lower than that in 2003 and 14% lower than in 2010. Without Spanish data the trend in longline (LL1) effort is uncertain but it is still the most important gear type after TR gears in this area.

The most important category in terms of cod catch and landings is TR1 with a three year average of 94-95% of the VIa cod catch – and landings - total by weight. The second most important gear category is TR2. The overall discard rate of cod (by weight) has increased in years subsequent to 2003. The rate of discarding in the TR1 gears has been between 70 and 90% in 2008-2011. Catches of cod by TR2 ‘none’ have been negligible since 2009. Discard information on Nephrops for any gear and for all other species for non-trawl gears was not available for this report. Cod CPUE values have increased considerably for the TR1 gear type since 2005.

STECF EWG 12-12 presents the estimated cod CPUE (average 2009-2011) and respective effort transfer factors between donor and receiving regulated gear groups. Red cells indicate imprecise values due to lack of adequate discard information. Green cells indicate well representative sampling.

	donor gear	receiving gear							
		BT1	BT2	GN1	LL1	TR1	TR2		CPUE
3d	BT1		1	0.1	1	0.006	0.077		1
3d	BT2	1		0.1	1	0.006	0.077		1
3d	GN1	1	1		1	0.058	0.769		10
3d	LL1	1	1	0.1		0.006	0.077		1
3d	TR1	1	1	1	1		1		171
3d	TR2	1	1	1	1	0.076			13

Fishing effort deployed and respective catches taken under the FDF scheme have been received and are presented.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for catches and discards of the regulated fisheries and their estimated fishing efforts are not statistically significant or significant but negative. The correlation between the summed partial Fs for landings and fishing effort are significant. The partial Fs of discards from the Scottish TR1 working under the cod plan article 13.2.b-c-d are recently increasing and dominating the fishing mortality. There are no indications that the Scottish TR1 fishery working under the article 13.2.b-c-d have contributed to a reduction in fishing mortality of cod. The lack of significant relationships between F and effort for the greatest cod contributors to cod catches indicates that kWdays at sea may not be an appropriate auxiliary measure to catch constraints and technical measures.

Effort regime evaluation for the Irish Sea

STECF EWG 12-12 notes that the TR2 category (70-99mm mesh sizes) dominates, and effort had been relatively stable between 2003 and 2008. An effort reduction occurred in 2009, coinciding with the introduction of the current cod plan, since then effort has remained at the reduced level. The majority of TR2 effort is now carried out under Article 13 of Coun. Reg. 1342/2008 (CPart13; ~80-99% of TR2 effort). A small amount of effort previously incorporated in CPart13 became exempt from the cod plan effort restrictions under Article 11 of the regulation (CPart11) in 2010 (3%), doubling in 2011 to 6%.

STECF EWG 12-12 notes that cod landings have continued to follow the declining trend which began in 2009. In relation to overall landings by species, Nephrops dominate Irish Sea landings and have been above 9kt since 2007, peaking in 2008 and 2011 with over 10kt. Discard information available within the Irish Sea is incomplete. Discard data is not available for all species and/or years within each gear grouping. TR2 and BT2 have the most complete data particularly in more recent years, for species like cod, haddock, hake, plaice, rays, and whiting. Over the majority of the period, TR1 land the greatest proportion of cod (~40%), however this changed in 2011 when the proportion dropped to 35%, following a declining trend, to just below TR2. This placed TR2 as the top ranked gear in 2011 although demonstrating little change to 2010 proportions.

STECF EWG 12-12 presents the estimated cod CPUE (average 2009-2011) and respective effort transfer factors between donor and receiving regulated gear groups. Red cells indicate imprecise values due to lack of adequate discard information. Yellow cells indicate sufficient sampling.

	donor gear	receiving gear							
		BT2	GN1	GT1	LL1	TR1	TR2		CPUE
3c	BT2		0.02	0.12	1	0.11	1		73
3c	GN1	1		1	1	1	1		3094
3c	GT1	1	0.20		1	0.96	1		617
3c	LL1	0.01	0	0.002		0.002	0.01		1
3c	TR1	1	0.21	1	1		1		640
3c	TR2	0.95	0.02	0.11	1	0.11			69

STECF EWG 12-12 notes that there were no Fully Documented Fisheries (FDF) reported as operating within the Irish Sea.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for landings of the regulated fisheries and their estimated fishing efforts are non-significant. The partial Fs of most Member State fisheries using regulated gears are not significantly correlated with their specific effort estimates. The lack of significant relationships between F and effort for the greatest cod contributors to cod landings indicates that kWdays at sea may not be an appropriate auxiliary measure to catch constraints and technical measures. STECF EWG 12-12 notes that the lack of discards prevents reliable conclusions and shall be considered when assessing management risks.

Effort regime evaluation for the Celtic Sea

STECF EWG 12-12 presents its review of trends in fisheries specific effort and catches in a consistent aggregation of the fisheries defined in the multi-annual cod plan to allow managers to evaluate the data with regard to a theoretical extension of the cod plan to include the Celtic Sea. The Celtic Sea is defined into two management areas, i.e. ICES Sub-divisions 7bcefghjk and ICES Sub-divisions 7fg.

STECF EWG 12-12 presents trends in fishing effort for the sensitive cod gears and non-regulated gears. Spanish data are not included as there were no data submitted. The demersal fisheries are dominated by the gears TR1, TR2 and BT2. Their effort measured in kWdays at sea remained stable during 2003-2007 and were reduced by about 20 % thereafter.

While discard information is scarce, LPUE of cod increased significantly in 2011.

STECF EWG 12-12 notes that the correlations between the summed partial F of catches and their specific effort estimates in kW days at sea over the main fisheries (effort regulated fisheries in the cod plan) are hardly significant in the entire Celtic Sea (7bcefghjk) Cel1 for the main fisheries catching Cod (French TR1 and TR2, and Irish TR1). However, these relations become significant between catches and effort for French TR1 and TR2 and remain significant for the Irish TR2 and Belgium TR2 when the area is reduced to the ICES subdivisions 7fg (Cel2). This indicates that effective fisheries management by fishing effort in units of kWdays at sea appears possible if applied in Cel2, also as an auxiliary measure to catch constraints and technical measures.

Effort regime evaluation for Southern hake and Norway lobster

STECF EWG 12-12 notes that the presented analyses are considered insufficient to fully address the specific ToR due to the unavailability of Spanish data for 2010 and 2011, which were not submitted in response to the DCF data calls for fishing effort evaluations in 2011 and 2012. In addition, Portuguese discard data were resubmitted in 2012 in a format which is obviously consistent with DCF but inconsistent with the data formats and aggregation of the data calls. Therefore, earlier provided discard information had to be deleted from the data bases and could not be used any longer.

STECF EWG 12-12 presents the requested fisheries specific parameters available aggregated to the definitions of gear groups in the Annex IIB of the annual TAC and Quota Regulations.

STECF EWG 12-12 notes that the fishing effort regime is by units of days at sea per vessel. STECF EWG 12-12 notes that if a fishing effort regime with regards to Southern hake and Norway lobster is to be maintained, it shall consider an appropriate measure of effective unit of fishing effort to account for vessel size/power and gear effectiveness.

Effort regime evaluation for the Western Channel

STECF EWG 12-12 notes the great majority of fishing effort deployed in the Western Channel is non-effort regulated, while the two regulated gear groups, the beam trawls and the static nets, constitute relatively small part. The effort in kWdays at sea of gear groups regulated by fishing effort appears to be stable since 2009 after a major drop in 2008.

STECF EWG 12-12 notes that sole landing are dominated by effort regulated beam trawls (61%), non-effort regulated gears, (32%, mainly otter trawl gears), and static nets (7%). STECF EWG 12-12 reiterates its observation that a relatively high percentage of sole is landed by non-effort regulated gears.

STECF EWG 12-12 notes that discard information in the Western Channel is scarce. The landings and discards for sole by the regulated gear 3a (beam trawl) by UK are estimated as:

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIC	sol	2011	7e	ENG	3a	349.807	21.961	0.059

STECF EWG 12-12 notes that the correlations between the summed partial Fs for landings of the major fisheries and their estimated fishing efforts are highly significant for the period 2005-2011. The correlation excludes the years 2003 and 2004 as the DCF data do represent only about 50% of the landings reported to ICES. The partial Fs of Belgian and English fisheries using the regulated gear 3a are closely correlated with their specific effort estimates in kW days at sea. However for the French regulated fisheries (3a and 3b), which represent just about 10% of the sole landings, the correlation between F and effort (kWdays) is statistically not significant. This indicates that effective fisheries management for sole in ICES Division VIIe by fishing effort in units of kWdays at sea appears possible, also an auxiliary measure to catch constraints and technical measures.

STECF EWG 12-12 notes that in 2011 the current fishing effort regime (days at sea per vessel) appears not constraining the fisheries, which have only used between 10 and 79% of the days at sea available. STECF EWG 12-12 notes that if a fishing effort regime in the Western Channel is to be maintained, it shall consider an appropriate measure of effective unit of fishing effort to account for vessel size/power and gear effectiveness. The lack of discard information in the assessment and forecast of fishing opportunities shall be considered when assessing management risks.

Effort regime evaluation for the Western Waters and Deep Sea

In accordance with its ToR STECF EWG 12-12 presents trends in effort, catches and CPUE of defined fisheries (major gear groups) for 18 management areas within the convention areas of ICES and CECAF. The EWG experienced extreme difficulties in preparing these data and the interpretation of them is confounded by uncertainty in the western waters data summaries for some member states most notably Portugal, France and Spain. Since these countries operate extensively in the Western Waters areas and are likely to contribute a significant proportion to the overall effort covered by respective regulations, the data shortfall implies that overall effort figures remain unreliable. STECF 12-12 also notes that discard information is often scarce.

Effort within the Deep sea and Western waters has been compiled for kW*days-at-sea, GT*days-at-sea, and numbers of vessels. Within the report the focus is on kW*Days at sea. Information on GT*days at sea and numbers of vessels is available via the website: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12

The general conclusion is that effort in a number of gears (particularly otter trawls) and countries has declined in recent years. This is most evident in the most northerly areas. Increases in the effort of longliners have occurred in a number of areas.

STECF EWG 12-12 notes that the presented information on landings and landings composition is very detailed but in general shows reductions in the landings of a number of species across the range of areas reported. One exception is the landings of certain deep water sharks in the more southerly ICES areas. The combination of questionable effort data and absence of catch information renders the calculation of aggregated CPUEs from deep sea and western waters data rather pointless for the present. However, all trends in national landings, effort and LPUE data are available via the website and can be queried further for specific needs: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12

Effort regime evaluation for the Bay of Biscay

STECF EWG 12-12 notes that all analyses and presented trends do exclude Spanish data, as Spain did not respond to the respective DCF data call for fishing effort regime evaluations. The resulting trends in fishing effort and landings shall be interpreted bearing in mind that the Spanish data are not considered and that discard information is scarce and dubious in certain cases.

STECF EWG 12-12 notes that the multiannual plan for the sustainable exploitation of the stock of sole in the Bay of Biscay (R (EC) 388/2006) stipulates provisions regarding maximum annual fishing capacity of the vessels holding the special fishing permit per Member State. STECF EWG 12-12 notes that only Belgium has provided the requested annual capacity data. STECF EWG 12-12 is therefore unable to evaluate the fishing effort regime in the Bay of Biscay, i.e. mainly to compare the trend in authorized fishing capacity with the trend in fishing mortality.

STECF EWG 12-12 notes that the French data submission on fishing effort in kWdays at sea and French landings consider special fishing permits only since 2010. STECF EWG 12-12 is therefore unable to fully evaluate the trend and uptake of the special fishing permit. STECF EWG 12-12 notes that the Belgian beam trawl fisheries are working exclusively under the provision of the special fishing permit since 2006, and that the French gill netters, trammel netters and otter trawlers are reported to be operating with the permit since 2010 at a rate of around 30, 10 and 50%, respectively. The vessels holding the permits are indeed taking the great majority of sole landing in 2010 and 2011.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for landings (discard data are scarce) of the major fisheries and their estimated fishing efforts are in general not significant (except for the trammel fishery of France). This indicates that effective fisheries management by fishing effort in units of kWdays at sea seems may not be an appropriate auxiliary measure to catch constraints and technical measures. STECF EWG 12-12 notes that the lack of discards prevents reliable conclusions and shall be considered when assessing management risks.

2 RECOMMENDATIONS OF THE WORKING GROUP

STECF EWG 12-12 has the generic task to review the DCF data call in 2012 to support fishing effort regime evaluations. STECF EWG has two technical recommendations to DG MARE regarding the DCF data call 2013 to support fishing effort regime evaluations as compared to the one issued in 2012.

2.1 First recommendation

STECF EWG 12-12 notes that the DCF data call in 2012 to support fishing effort regime evaluations is not consistent with the ToR. Thus, the EWG could not fully address the tasks for the Baltic regime, i.e. to assess the fishing activity measured in days absent from port (according to definitions adopted in R(EC) No 1098/2007). STECF EWG 12-12 recommends that the Effort Data Call the Table D in 2013 shall consider an additional fishing effort parameter called “fishing activity” in units of days. The additional parameter shall be specific by country, year, vessel-length, area (A or B) and gear (regulated=REGGEAR or un-regulated NONGEAR).

2.2 Second recommendation

STECF EWG 12-12 notes that FDF has been implemented for sole in the Western Channel in 2012 (Council Reg N 43/2012, EU TAC and Quota regulation for 2012). STECF EWG 12-12 recommends to DG MARE that, if catches and effort und FDF in the Western Channel shall be analysed in 2013, the respective DCF fishing effort data call shall consider an additional specific code in Appendix 6 called “FDFIIC”.

3 INTRODUCTION

The STECF EWG 12-12 met during 24-28 September 2012 at the Casa Don Guanella in Barza d'Ispra, Italy. The meeting started by 9 am on 24 September and was adjourned by 4 pm on 28 September 2012. Working conditions provided were considered optimum.

The EWG 12-12 on fishing effort regime evaluations part 2 revised and complemented its responses to the Terms of Reference provided in the present report as has been provided in the STECF report on fishing effort regime evaluations part 1 STECF 12-09 EWG 12-06, based on the EWG which met during 11-15 June 2012 at the Portuguese Institute for Oceans and Fisheries (IPIMAR) in Lisbon, Portugal. Consequently, the present report of STECF EWG 12-12 on fishing effort regime evaluations part 2 repeals the previous incomplete report of STECF 12-09 EWG 12-06 on fishing effort regime evaluations part1.

The STECF EWG 12-12 notes that it also addresses the additional ToR in section 4.11 of the present report

3.1 Terms of Reference for EWG-12-06 and EWG 12-12

Background

The Commission consults the STECF 'Working Group on fishing effort regime evaluations' on a review of fisheries regulated through fishing effort management schemes adopted in application of

- ✓ the long term plan for cod stocks [R(EC) No 1342/2008],
- ✓ the recovery plan for Southern hake and Norway lobster stocks in the Cantabrian Sea and Western Iberian peninsula [R(EC) No 2166/2005],
- ✓ the multi-annual plan for the North Sea plaice and sole stocks [R(EC) No 676/2007],
- ✓ the multi-annual plan of Western Channel sole stock [R(EC) No 509/2007],
- ✓ the multi-annual plan for the cod stocks in the Baltic Sea [R(EC) No 1098/2007],
- ✓ the multi-annual plan for the sustainable exploitation of the stock of sole in the Bay of Biscay [R(EC) No 388/2006],
- ✓ R(EC) No 2347/2002 establishing specific access requirements and associated conditions applicable to fishing for deep sea stocks, and
- ✓ R(EC) No 1954/2003 on the management of the fishing effort relating to certain Community fishing areas and resources – so called Western Waters regime.

The overarching request is for: i) an assessment of fishing effort deployed by fisheries

and métiers which are currently affected by fishing effort management schemes as defined in Annex II of the TAC and Quota Regulations Regulation and including an assessment of fishing effort deployed by fisheries and métiers which would be affected by the extension of the cod recovery plan to the Celtic Sea and an assessment of effort in the Biscay sole fishery.); ii) an assessment of effort in the Baltic Sea and iii) an assessment of effort in Deep Sea and Western Waters regimes.

There will be two meetings of this STECF Working Group which will take place from 11 to 15 June 2012 and from 24 to 28 September 2012.

1 – Assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Baltic Sea cod management plan R(EC) No 1098/2007

1. To provide historical series, as far back in time as possible, according to each of the following fishing areas:

Areas covered by the R(EC) No 1098/2007 (Baltic Sea)

(i) ICES division 22 to 24,

(ii) ICES divisions 25 to 28, by distinguishing areas 27 and 28.2

(iii) ICES divisions 29 to 32,

The data should also be broken down by

Member State;

Regulated gear types defined in **R(EC) No 1098/2007** (and by associated special conditions defined in the Appendix 6 of the data call);

Unregulated gear types catching cod in fishing areas (i), (ii) and (iii);

for the following parameters:

a. Fishing effort, measured in kW.days and in GT.days

b. Fishing activity measured in days absent from port (according to definitions adopted in R(EC) No 1098/2007) and fishing capacity measured in kW, GT and in number of vessels concerned per year.

c. Catches (landings and discards provided separately) of cod in the Baltic Sea by weight and by numbers at age.

d. Catches (landings and discards provided separately) of non-cod in the Baltic Sea by species, by weight and by numbers at age

e. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod in the Baltic Sea (such data shall be issued by Member state, fishing area (i), (ii) and (iii) and fishing gear concerned in accordance with **Art. 3 of R(EC) No 2187/2005).**

2. If relevant data are available, to comment on the quality of estimations on total catches and discards.

3. To assess the fishing effort and catches (landings and discards) of cod in the Baltic Sea and associated species corresponding to vessels of length overall smaller than 8 metres in each fishery, by gear and by Member State according to sampling plans implemented to estimate these parameters.

4. To assess fishing mortality by Member State and regulated gear types corresponding to the effort deployed and the calculated maximum effort allocated.

5. To quantify the evolution of the calculated maximum effort allocated to the cod fleet (regulated gear types) in relation to the effort really used by that fleet and highlight possible shifts between metiers.

6. To assess the catches (absolute values, landings and discards provided separately) and effort deployed in 2011 corresponding to vessels participating in trials on fully documented fisheries, by species, by gear and Member State, with the aim to determine the quality of the data submitted, the potentials and limitations of the fully documented fisheries and to what extend in particular catches (absolute values, landings and discards provided separately) differs from the figures estimated by the STECF for vessels not participating in these trials.

7. To plot, the spatial distribution of the fishing effort of regulated gears deployed in the Baltic Sea, according to data reported in logbooks on the basis of ICES statistical rectangles and to provide interpretation of any changes or trends.

8. To highlight any unexpected evolutions shown by the data which are not in line with the general trend.

9. To assess the correlation between fishing mortality rates and the effort deployed by Member States.

If a good correlation between fishing mortality rates and spend fishing effort is found, the WG is asked to explain or describe it. In case the correlation between the nominal fishing effort and the fishing mortality rates is weak, the WG is asked to describe whether this is due to a wrong descriptor (fe wrong descriptor for fishing capacity) or due to other factors.

10. To assess and present in a tabular form the annual partial fishing mortalities of cod, for landings and discards separately, as generated by the effort regulated gears and the non-regulated gears by fishing areas and Member States, the latter non-regulated gears as a single lump group. The trends in gear group specific partial fishing mortalities shall then be compared with (correlated against) the trends in gear group specific fishing effort of the gears mentioned by fishing areas and Member States.

11. To identify, based on available data on fisheries specific landings and effort by statistical rectangle, ways to estimate standardised catchability indices for cod in the Baltic, considering the best practice to account for discards and to raise landings to catch figures. Detailed maps on estimated annual catchability indices by species shall then be presented for these areas.

2 – Assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Kattegat (Annex IIA to Regulation (EC) No 57/2011)

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

Kattegat (ICES functional unit IIIaS)

The data should also be broken down by

Member State;

Regulated gear types defined in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in the Appendix 6 of the data call);

Unregulated gear types catching cod;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days, in number of vessels concerned.

b. Catches (landings and discards provided separately) of cod by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod.

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of cod and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

5 To assess the catches (absolute values, landings and discards provided separately) and effort deployed in 2011 corresponding to vessels participating in trials on fully documented fisheries, by species, by gear and Member State, with the aim to determine the quality of the data submitted, the potentials and limitations of the fully documented fisheries and to what extend in particular catches (absolute values, landings and discards provided separately) differs from the figures estimated by the STECF for vessels not participating in these trials.

6. To plot, the spatial distribution of the fishing effort of regulated gears deployed in the Kattegat, according to data reported in logbooks on the basis of ICES statistical rectangles and to provide interpretation of any changes or trends.

7. To highlight any unexpected evolutions shown by the data which are not in line with the general trend.

8. To assess the correlation between fishing mortality rates and the effort deployed by Member States.

If a good correlation between fishing mortality rates and spend fishing effort is found, the WG is asked to explain or describe it. In case the correlation between the nominal fishing effort and the fishing mortality rates is

weak, the WG is asked to describe whether this is due to a wrong descriptor (fe wrong descriptor for fishing capacity) or due to other factors.

9. To develop and calculate standard cpue's and standard correction factors to be used (within a MS) for transferring effort across gear groups with different cpue (Reg. (EC) No 1342/2008 Art 17, paragraph 5).

Commission Regulation (EU) No 237/2010 article 8(b) describes:

Correction factor = cpue donor gear /cpue receiving gear

The cpue's have to be calculated per area per gear group (regulated gear) and presented in a table. Another table for the standard correction factors. Correction factors >=1 will all be set at value 1.

10. To assess and present in a tabular form the annual partial fishing mortalities of cod, for landings and discards separately, as generated by the effort regulated gears (Annex I to Council Reg. 1342/2008) and the non-regulated gears by Member States, the latter non-regulated gears as a single lump group. The trends in gear group specific partial fishing mortalities shall then be compared with (correlated against) the trends in gear group specific fishing effort of the gears mentioned by Member States.

11. To quantitatively assess the annual trend in cod mortality that would have resulted from the fishing mortality adjustments in Article 7 and the trends in fishing effort that would have resulted from Article 12 of Council Reg. 1342/2008, for the period 2008 to 2011. STECF is then requested to quantitatively assess the partial cod fishing mortality and fishing effort trends of the regulated gears that were observed during 2008 to 2011. STECF is requested to comment on the questions if and to which extent the Member States application of Article 13, Paragraph 2, points a, b, c and d have supported the reduction of cod fishing mortality as defined in Articles 7, 8 and 9. The requested analyses will be supported by additional data provided by the Commission DG MARE to STECF EWG 12-06.

12. To identify, based on available data on fisheries specific landings and effort by statistical rectangle, ways to estimate standardised catchability indices for cod, plaice and sole in areas a (Kattegat), considering the best practice to account for discards and to raise landings to catch figures. Detailed maps on estimated annual catchability indices by species shall then be presented for these areas.

13. In their notification to the Commission under article 7.4 of Regulation 43/2012 and article 6.4 of regulation 44/2012 UK and DK used discard estimates in their calculation of the amount of additional allocation of quota. In relation to TOR 5.4 (2nd question) of the STECF spring plenary report in 2012, STECF effort working group is requested to provide the Commission with the following discard estimates for 2011:

3 – Assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Skagerrak, the North Sea and the Eastern Channel (Annex IIA to Regulation (EC) No 57/2011)

1. To provide historical series, as far back in time as possible, according to each of the following fishing areas:

(i) Skagerrak (ICES functional Unit IIIaN),

(ii) North Sea (EC waters of ICES sub-area IIa and ICES sub-area IV),

(iii) Eastern channel (ICES division VIId)

The data should also be broken down by

Member State;

Regulated gear types designed in **Annex I** to **R(EC) No 1342/2008** (and by associated

special conditions defined in the Appendix 6 of the data call);

Unregulated gear types catching cod, sole and plaice in fishing areas (i), (ii) and (iii);

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days, in number of vessels concerned and days at sea for the sole and plaice fishery.

b. Catches (landings and discards provided separately) of cod, sole and plaice by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod, non-sole and non-plaice by species, by weight and by numbers at age.

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod, sole and plaice (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod, sole and plaice.

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of cod, sole and plaice and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

5. To plot, the spatial distribution of the fishing effort of regulated gears deployed in the Skagerrak, the North Sea and the Eastern Channel, according to data reported in logbooks on the basis of ICES statistical rectangles and to provide interpretation of any changes or trends.

6. To describe the spatial distribution of the fishing effort of regulated gears deployed in the Skagerrak, the North Sea and the Eastern Channel, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of the first fishing effort regime in such areas.

7. To highlight any unexpected evolutions shown by the data which are not in line with the general trend.

8. To assess the correlation between fishing mortality rates and the effort deployed by Member States.

If a good correlation between fishing mortality rates and spend fishing effort is found, the WG is asked to explain or describe it. In case the correlation between the nominal fishing effort and the fishing mortality rates is weak, the WG is asked to describe whether this is due to a wrong descriptor (fe wrong descriptor for fishing capacity) or due to other factors.

9. To develop and calculate standard cpue's and standard correction factors to be used (within a MS) for transferring effort across gear groups with different cpue (Reg. (EC) No 1342/2008 Art 17, paragraph 5).

Commission Regulation (EU) No 237/2010 article 8(b) describes:

Correction factor = cpue donor gear /cpue receiving gear

The cpue's have to be calculated per area per gear group (regulated gear) and presented in a table. Another table for the standard correction factors. Correction factors >=1 will all be set at value 1.

10. To assess and present in a tabular form the annual partial fishing mortalities of cod, haddock, saithe (Skagerrak and North Sea only), whiting, plaice (North Sea only) and sole (North Sea only), for landings and discards separately, as generated by the effort regulated gears (Annex I to Council Reg. 1342/2008) and the non-regulated gears by Member States, the latter non-regulated gears as a single lump group. The trends in gear group specific partial fishing mortalities shall then be compared with (correlated against) the trends in gear group specific fishing effort of the gears mentioned by Member States.

11. To quantitatively assess the annual trend in cod mortality that would have resulted from the fishing mortality adjustments in Article 8 and the trends in fishing effort that would have resulted from Article 12 of Council Reg. 1342/2008, for the period 2008 to 2011.. STECF is requested to comment on the questions if and to which extent the Member States application of Article 13, Paragraph 2, points a, b, c and d have supported the reduction of cod fishing mortality as defined in Articles 7, 8 and 9. The requested analyses will be supported by additional data provided by the Commission DG MARE to STECF EWG 12-06.

12. To identify, based on available data on fisheries specific landings and effort by statistical rectangle, ways to estimate standardised catchability indices for cod, plaice and sole in areas Skagerrak, North Sea and Eastern Channel and 2EU, considering the best practice to account for discards and to raise landings to catch figures. Detailed maps on estimated annual catchability indices by species shall then be presented for these areas.

13**.** In their notification to the Commission under article 7.4 of Regulation 43/2012 and article 6.4 of regulation 44/2012 UK and DK used discard estimates in their calculation of the amount of additional allocation of quota. In relation to TOR 5.4 (2nd question) of the STECF spring plenary report in 2012, STECF effort working group is requested to provide the Commission with the following discard estimates for 2011:

Country	Area	Gear	Species	Discard estimate 2011
UK	2EU and 3an (Skagerrak) and 4 North Sea	TR1	Cod	
DK	4 North Sea	TR1	Cod	
DK	3an (Skagerrak)	TR2	Cod	
DK	3an (Skagerrak) and 4 North Sea	GN	Cod	

(*): Denmark will be asked to clarify which gears were used. The WG will be informed about the outcome.

STECF is also requested to explain the method and data used for estimation of those discard rates and comment on the quality of the data provided by the Member States concerned and the overall data used for this estimation.

4 – Assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the West of Scotland (Annex II A to Regulation (EC) No 57/2011)

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

West of Scotland (ICES division VIa and EC waters of Vb)

The data should also be broken down by

Member State;

Regulated gear types designed in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Appendix 6 to the data call as far as relevant);

Unregulated gear types catching cod;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod by species, by weight and by numbers at age.

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod.

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of cod and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

5. To assess the catches (absolute values, landings and discards provided separately) and effort deployed in 2011 corresponding to vessels participating in trials on fully documented fisheries, by species, by gear and Member State, with the aim to determine the quality of the data submitted, the potentials and limitations of the fully documented fisheries and to what extend in particular catches (absolute values, landings and discards provided separately) differs from the figures estimated by the STECF for vessels not participating in these trials.

6. To plot, the spatial distribution of the fishing effort of regulated gears deployed in the West of Scotland, according to data reported in logbooks on the basis of ICES statistical rectangles and to provide interpretation of any changes or trends.

7. To highlight any unexpected evolutions shown by the data which are not in line with the general trend.

8. To assess the correlation between fishing mortality rates and the effort deployed by Member States.

If a good correlation between fishing mortality rates and spend fishing effort is found, the WG is asked to explain or describe it. In case the correlation between the nominal fishing effort and the fishing mortality rates is weak, the WG is asked to describe whether this is due to a wrong descriptor (fe wrong descriptor for fishing capacity) or due to other factors.

9. To develop and calculate standard cpue's and standard correction factors to be used (within a MS) for transferring effort across gear groups with different cpue (Reg. (EC) No 1342/2008 Art 17, paragraph 5).

Commission Regulation (EU) No 237/2010 article 8(b) describes:

Correction factor = cpue donor gear /cpue receiving gear

The cpue's have to be calculated per area per gear group (regulated gear) and presented in a table. Another table for the standard correction factors. Correction factors >=1 will all be set at value 1.

10. To assess and present in a tabular form the annual partial fishing mortalities of cod, haddock, saithe (VIa only), for landings and discards separately, as generated by the effort regulated gears (Annex I to Council Reg. 1342/2008) and the non-regulated gears by Member States, the latter non-regulated gears as a single lump group. The trends in gear group specific partial fishing mortalities shall then be compared with (correlated against) the trends in gear group specific fishing effort of the gears mentioned by Member States.

11.To quantitatively assess the annual trend in cod mortality that would have resulted from the fishing mortality adjustments in Article 7 and the trends in fishing effort that would have resulted from Article 12 of Council Reg. 1342/2008, for the period 2008 to 2011. STECF is then requested to quantitatively assess the partial cod fishing mortality and fishing effort trends of the regulated gears that were observed during 2008 to 2011. STECF is requested to comment on the questions if and to which extent the Member States application of Article 13, Paragraph 2, points a, b, c and d have supported the reduction of cod fishing mortality as defined in Articles 7, 8 and 9. The requested analyses will be supported by additional data provided by the Commission DG MARE to STECF EWG 12-06.

12. To identify, based on available data on fisheries specific landings and effort by statistical rectangle, ways to estimate standardised catchability indices for cod West of Scotland, considering the best practice to account for discards and to raise landings to catch figures. Detailed maps on estimated annual catchability indices by species shall then be presented for these areas.

5 – Assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Irish Sea (Annex IIA to Regulation (EC) No 57/2011)

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

Irish Sea (ICES division VIIa)

The data should also be broken down by

Member State;

Regulated gear types designed in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Appendix 6 to the data call as far as relevant);

Unregulated gear types catching cod;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod.

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of cod and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

5 To assess the catches (absolute values, landings and discards provided separately) and effort deployed in 2011 corresponding to vessels participating in trials on fully documented fisheries, by species, by gear and Member State, with the aim to determine the quality of the data submitted, the potentials and limitations of the fully documented fisheries and to what extend in particular catches (absolute values, landings and discards provided separately) differs from the figures estimated by the STECF for vessels not participating in these trials.

6. To plot, the spatial distribution of the fishing effort of regulated gears deployed in the Irish Sea, according to data reported in logbooks on the basis of ICES statistical rectangles and to provide interpretation of any changes or trends.

7. To highlight any unexpected evolutions shown by the data which are not in line with the general trend.

8. To assess the correlation between fishing mortality rates and the effort deployed by Member States.

If a good correlation between fishing mortality rates and spend fishing effort is found, the WG is asked to explain or describe it. In case the correlation between the nominal fishing effort and the fishing mortality rates is weak, the WG is asked to describe whether this is due to a wrong descriptor (fe wrong descriptor for fishing capacity) or due to other factors.

9. To develop and calculate standard cpue's and standard correction factors to be used (within a MS) for transferring effort across gear groups with different cpue (Reg. (EC) No 1342/2008 Art 17, paragraph 5).

Commission Regulation (EU) No 237/2010 article 8(b) describes:

Correction factor = cpue donor gear /cpue receiving gear

The cpue's have to be calculated per area per gear group (regulated gear) and presented in a table. Another table for the standard correction factors. Correction factors >=1 will all be set at value 1.

10. To assess and present in a tabular form the annual partial fishing mortalities of cod, for landings and discards separately, as generated by the effort regulated gears (Annex I to Council Reg. 1342/2008) and the non-regulated gears by Member States, the latter non-regulated gears as a single lump group. The trends in gear group specific partial fishing mortalities shall then be compared with (correlated against) the trends in gear group specific fishing effort of the gears mentioned by Member States.

11.To quantitatively assess the annual trend in cod mortality that would have resulted from the fishing mortality adjustments in Article 7 and the trends in fishing effort that would have resulted from Article 12 of Council Reg. 1342/2008, for the period 2008 to 2011. STECF is requested to comment on the questions if and to which extent the Member States application of Articles 13, Paragraph 2, points a, b, c and d have supported the reduction of cod fishing mortality as defined in Article 7, 8 and 9. The requested analyses will be supported by additional data provided by the Commission DG MARE to STECF EWG 12-06.

12. To identify, based on available data on fisheries specific landings and effort by statistical rectangle, ways to estimate standardised catchability indices for cod in Irish Sea, considering the best practice to account for discards and to raise landings to catch figures. Detailed maps on estimated annual catchability indices by species shall then be presented for these areas.

6 – Assessment of fishing effort deployed by fisheries and métiers which will be affected by the extension of the cod recovery plan to the Celtic Sea

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

(i) Celtic Sea (total of ICES divisions VIIb, VIIc, VIIe, VIIf, VIIg, VIIh, VIIj and VIIk) and

(ii) combined area Bristol Channel/South-East Ireland (total of the subset of ICES divisions VIIf and VIIg)

The data should also be broken down by:

Member State;

Regulated gear types designed in **Annex I** to **R(EC) No 1342/2008**;

Unregulated gear types catching cod;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod by species, by weight and by numbers at age.

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod (such data shall be issued by Member state and fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**).

2. When providing and explaining data in accordance with point (1), the following **specific question** should be answered as well:

For VIIf+VIIg only, identify the **main species** (volume and percentage) caught per gear category, and related trends in recent years. Specify when this calculation has taken account of discards as well.

Special request: to analyse discards and their development per gear type in each of the ICES divisions concerning hake, monkfish and megrim. This analysis should be carried out referring to fish lengths/age of discards.

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of cod and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

5. To highlight any unexpected evolutions shown by the data which are not in line with the general trend.

6. To assess the correlation between fishing mortality rates and the effort deployed by Member States.

If a good correlation between fishing mortality rates and spend fishing effort is found, the WG is asked to explain or describe it. In case the correlation between the nominal fishing effort and the fishing mortality rates is weak, the WG is asked to describe whether this is due to a wrong descriptor (fe wrong descriptor for fishing capacity) or due to other factors.

7 – Assessment of fishing effort deployed by vessels under the Southern hake and Norway lobster plan (Council Regulation (EC) No 2166/2005) operating in the Atlantic waters of the Iberian Peninsula as specified in Annex IIB of Council Regulation (EC) No 57/2011

Terms of Reference:

1. The STECF is requested to compile, validate, analyse and assess the following historical data on fishing effort and catches in relation to vessels under the Southern hake and Norway lobster plan (Regulation (EC) 2166/2005):

details by Member State on both effort (2000-2011) deployed and catches (2003-2011) made by all fishing vessels, included those with less than 10 meters, in each fishery, broken down by age, gear type, and mesh size

The data should be broken down and assessed by:

Member State;

Regulated gear types, area as laid down **in Annex IIB of Council Regulation (EC) No 57/2011** and associated special conditions as laid down in Appendix 6 to the data call; unregulated gear types catching hake and Norway lobster;

for the following parameters:

a. fishing effort measured in kW.days, in GT.days and in number of vessels concerned;

b. catches (landings and discards provided separately) of hake and Norway lobster by weight and by numbers at age;

c. catches (landings and discards provided separately) of species other than hake and Norway lobster in areas covered by Annex IIB mentioned above (a particular attention should be paid to Anglerfish catches), by species, by weight and by numbers at age;

d. landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of hake, Norway lobster and Anglerfish in areas covered by Annex IIB (such data shall be issued by Member state, fishing gear and special conditions listed in **Annex IIB of Council Regulation (EC) No 57/2011**);

In assessing the data described above, particular attention should be paid to:

the quality of estimates of total catches and discards;

both the fishing effort and catches including landings and discards of hake, Norway lobster, anglerfish, and associated species in relation to vessels of overall length smaller than 10 metres in each fishery, by gear (regulated and unregulated gears) and by Member State. The representativeness of data originated from sampling schemes should also be assessed.

to the description of the spatial distribution of the fishing effort of regulated gears deployed in the Atlantic waters of the Iberian Peninsula according to data reported in logbooks on the basis of ICES statistical rectangles with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of the fishing effort regime.

An excel table listing the kW.days from 2000 to 2011 broken down per gear type, special condition and Member State should be made available.

2. In the context of the revision of the current Southern hake and Norway lobster recovery plan (Council Regulation (EC) No 2166/2005) and on the basis of the data provided, the STECF is requested to assess the fishing effort regime, in particular commenting on the quality and completeness of these data used to assess the impact of future effort management measures proposed by the Commission.

3. To compare the evaluation of days allocated to the vessels carrying regulated gears (allowed activity) and really used by those vessels.

4. To highlight any unexpected evolutions shown by the data which are not in line with the general trend.

5. To assess the correlation between fishing mortality rates and the effort deployed by Member States.

If a good correlation between fishing mortality rates and spend fishing effort is found, the WG is asked to explain or describe it. In case the correlation between the nominal fishing effort and the fishing mortality rates is weak, the WG is asked to describe whether this is due to a wrong descriptor (fe wrong descriptor for fishing capacity) or due to other factors.

6. To identify, based on available data on fisheries specific landings and effort by statistical rectangle, ways to estimate standardised catchability indices for Nephrops, hake and monk in ICES Div. 8c and 9a, considering the best practice to account for discards and to raise landings to catch figures. Detailed maps on estimated annual catchability indices by species shall then be presented for these areas.

8 – Assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Western Channel
(Western Channel sole stocks ICES zone VIIe, Annex IIC to Regulation (EC) No 57/2011)

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

Western Channel (ICES division VIIe)

The data should also be broken down by

Member State;

Regulated gear types designed in **Annex IIC** to **R(EC) No 57/2011** (and by associated special conditions defined therein as far as relevant);

Unregulated gear types catching sole;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned.

b. Catches (landings and discards provided separately) of sole by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-sole by species, by weight and by numbers at age.

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of sole (such data shall be issued by Member state and fishing gear listed in **Annex IIC to R(EC) No 57/2011**).

2. If relevant data are available, to comment on the quality of estimations on total catches and discards.

3. To assess the fishing effort and catches (landings and discards) of sole and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

4. To plot, the spatial distribution of the fishing effort of regulated gears deployed in the Baltic Sea, according to data reported in logbooks on the basis of ICES statistical rectangles and to provide interpretation of any changes or trends.

5. To compare the evaluation of days allocated to the vessels carrying regulated gears (allowed activity) and really used by those vessels.

6. To highlight any unexpected evolutions shown by the data which are not in line with the general trend.

7. To assess the correlation between fishing mortality rates and the effort deployed by Member States.

If a good correlation between fishing mortality rates and spend fishing effort is found, the WG is asked to explain or describe it. In case the correlation between the nominal fishing effort and the fishing mortality rates is weak, the WG is asked to describe whether this is due to a wrong descriptor (fe wrong descriptor for fishing capacity) or due to other factors.

8. To identify, based on available data on fisheries specific landings and effort by statistical rectangle, ways to estimate standardised catchability indices for sole in the Western Channel, considering the best practice to account for discards and to raise landings to catch figures. Detailed maps on estimated annual catchability indices by species shall then be presented for these areas.

9**.** In their notification to the Commission under article 7.4 of Regulation 43/2012 and article 6.4 of regulation 44/2012 UK and DK used discard estimates in their calculation of the amount of additional allocation of quota. In relation to TOR 5.4 (2nd question) of the STECF spring plenary report in 2012, STECF effort working group is requested to provide the Commission with the following discard estimates for 2011:

Country	Area	Gear	Species	Discard estimate 2011
UK	7e Western Channel.	3a	Sole	

9 - Assessment of fishing effort and evaluation of management measures to be assessed in 2009 (Deep sea and Western Waters effort regime)

1. To provide historical series, as far back in time as possible, according to each of the following fishing areas:

(i) ICES area I (EU waters; non EU waters), only linked to Deep Sea species

(ii) ICES area II (EU waters; non EU waters), only linked to Deep Sea species

(iii) ICES area III (EU waters; non EU waters), only linked to Deep Sea species

(iv) ICES area IV (EU waters; non EU waters), only linked to Deep Sea species

(v) ICES area V (EU waters; non EU waters)

(vi) ICES area VI (EU waters; non EU waters)

(vii) ICES area VII excluding VIId (EU waters; non EU waters)

(viii) ICES division VIId

(ix) the Biologically Sensitive Area as defined in Article 6 of Reg (EC) No 1954/2003

(x) ICES area VIII (EU waters; non EU waters)

(xi) ICES area IX (EU waters; non EU waters)

(xii) ICES area X (EU waters; non EU waters)

(xiii) ICES area XII (EU waters; non EU waters), only linked to Deep Sea species

(xiv) ICES area XIV (EU waters; non EU waters), only linked to Deep Sea species

(xv) CECAF area 34.1.1 (EU waters; non EU waters)

(xvi) CECAF area 34.1.2 (EU waters; non EU waters)

(xvii) CECAF area 34.1.3 (EU waters; non EU waters)

(xviii) CECAF area 34.2 (EU waters; non EU waters)

The data should also be broken down by

Member State;

The following gear types:

- Regulated gear types
  - Beam trawls
  - Bottom trawls & demersal seines
  - dredges
  - drifting longlines or set longlines (bottom)
  - driftnets or set gillnets
  - trammel nets
  - pots & traps

- Unregulated gear types:
    - Pelagic trawls and pelagic seines;
    - longlines (surface)

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) by weight of:

- 5 most important (in weight landed) demersal species excluding scallops, edible crab, spider crab,
- Scallops
- Spider crab and edible crab
- 5 most important (in weight landed) Deep-sea species (according to Annex I and II of Reg 2347/2002), only related to fisheries which have been identified with special condition DEEP
- 4 most important (in weight landed) pelagic species, plus always tuna-like species (SKJ,ALB,YFT,BET,SWO).

c. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) by Member State and gear, given by total catches of the gear divided by kW-days and GT-days.

2. If relevant data are available, to comment on the quality of estimations on total catches and discards.

3. When providing and explaining data in accordance with point (1), the following **specific question** should be answered as well:

Discuss whether additional data on fishing depth and VMS position could improve the analysis and interpretation of deep sea fisheries, and how these data could be called from MS, processes and presented

4. To identify recent effort trends in pelagic fisheries where possible, in particular in areas XI, X and CECAF areas.

5. To highlight any unexpected evolutions shown by the data which are not in line with the general trend.

10 – Assessment of fishing effort deployed by fisheries and métiers which are currently affected by the multiannual plan for the sustainable exploitation of the stock of common sole in the Bay of Biscay (R(EC) No 388/2006)

1. To provide historical series, as far back in time as possible, according to each of the following fishing areas:

ICES division VIIIa, and

ICES division VIIIb

The data should also be broken down by:

Member State;

Type of gear (as laid down in **Annex IV of Commission Decision 2008/949/CE**) for regulated vessels (as laid down in **Article 5 of R(EC) No 388/2006)**

Type of gear (as laid down in **Annex IV of Commission Decision 2008/949/CE**) for unregulated vessels (as laid down in **Article 5 of R(EC) No 388/2006)**

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Fishing capacity in GT

c. Catches (landings and discards provided separately) of common sole (Solea solea) by weight and by numbers at age.

d. Catches (landings and discards provided separately) of species other than common sole, by weight and by numbers at age

2. If relevant data are available, to comment on the quality of estimations on total catches and discards.

3. To assess the fishing effort and catches (landings and discards separately) of common sole and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear and by Member State according to sampling plans implemented to estimate these parameters.

4. To describe the spatial distribution of the fishing effort deployed in the Bay of Biscay, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine the spatial distribution of fishing effort and its development among the time period.

5. To highlight any unexpected evolutions shown by the data which are not in line with the general trend.

6. To assess the correlation between fishing mortality rates and the effort deployed by Member States.

If a good correlation between fishing mortality rates and spend fishing effort is found, the WG is asked to explain or describe it. In case the correlation between the nominal fishing effort and the fishing mortality rates is weak, the WG is asked to describe whether this is due to a wrong descriptor (fe wrong descriptor for fishing capacity) or due to other factors.

3.2 Additional Terms of Reference for EWG 12-12

TORs for TAC/effort advice for the Irish Sea and Kattegat cod stocks

Background: The STECF report "Management plans part 2- changes to cod plans (STECF -12-13)" provides a number of recommendations to improve the functioning of Council Regulation (EC) No 1342/2008 establishing a long-term plan for cod stocks and the fisheries exploiting those stocks. The report provides specific methods that could be used for Irish Sea cod and Kattegat cod if short term forecasts cannot be provided. In addition the report proposes a method based on catch that could be used, instead of the F based approach, to demonstrate conformity with the Regulation as regards the implementation of Article 13. To explore how those recommendations and methods provided in the report "Management plans part 2- changes to cod plans (STECF -12-13) could be applied in practice the Commission is requesting to provide:

1. TAC and effort levels for the cod stocks in the Irish Sea and in the Kattegat for 2013. The advice should be made on basis of information available to ICES, STECF and JRC.

   Where possible, it is requested to advice on alternative or more appropriate measures than further reductions in TAC and effort.

2. Catch options equivalent to the reduction target of F deriving from the management plan for the fleet segments that are affected by annual fishing effort adjustments for each Member State concerned.

   Additionally the data requirements for Member State reporting concerning implementation results should be specified in detail so that these can be assessed by STECF.

3.3 Participants

STECF EWG 12-12 notes that participants of both EWG-12-06 on fishing effort regime evaluations part 1 and EWG 12-12 fishing effort regime evaluations part 2 have contributed to the present report. Section 7 presents the participants of both meetings.

4 DATA USED

The following sections provide an overview on data definition, acquisition, and evaluation procedures agreed by the expert working group. There are also provided experts' concerns regarding the data as submitted by the Member States in response to the DCF data call in 2012 for fishing effort regime evaluations

4.1 Report Notations

4.1.1 Baltic Sea

To identify the categories assessed for effort and catch this working group adopts terminology that matches definitions made in the management plan for Baltic cod (R(EC) 1098/2007). This means that all trawls, Danish seines, gill nets, entangling nets or trammel nets with mesh size >=90mm and longlines were assumed to be regulated gears (Table 4.1.1.1). Remaining gear and mesh size combinations were taken to be unregulated gears (Table 4.1.1.2).

However, the definition in the cod management plan is not consistent with regulation R(EC) No 2187/2005). According to the latter regulation it is only permissible to fish for cod with mesh size >=105mm using otter trawls, Danish seines or similar gears. When using static gears mesh size has to be above 110mm. In TOR 1e it is explicitly asked to calculate Landings per Unit of Effort (LPUE) and Catches per Unit Effort (CPUE) of cod in the Baltic Sea by Member State, fishing area and fishing gear concerned in accordance with Art. 3 of R(EC) No 2187/2005. However, to be consistent within the report we also used the gear categories from the cod management plan (Council Regulation (EC) 1098/2007) for this TOR.

Sub-Areas were defined according to Council Regulation (EC) 1098/2007. This means that Subdivision 22-24 is declared as fishing area “A”, Subdivision 25-28 as “B” and Subdivision 29-32 as “C”. Effort trends and catch compositions for Subdivisions 27 and 28.2 separately were not analysed due to data problems and limited time available.

Table. 4.1.1.1 Regulated gear types, mesh sizes and special conditions as defined in Reg. (EC) No. 1098/2007.

Gear	Mesh Size	SPECON
OTTER	>=90mm	none
OTTER	>=90mm	BACOMA
Danish Seine	>=90mm	none
Danish Seine	>=90mm	BACOMA
Pelagic Trawl	>=90mm	none
Pelagic Trawl	>=90mm	BACOMA
Pelagic Seine	>=90mm	none
Pelagic Seine	>=90mm	BACOMA
Gill net	>=90mm	none
Trammel net	>=90mm	none
BEAM	>=90mm	none
Longlines		

Table 4.1.1.2 Unregulated gear types, mesh sizes and special conditions as defined in Reg. (EC) No. 1098/2007.

Gear	Mesh Size	SPECON
OTTER	<90mm	none
Danish Seine	<90mm	none
Pelagic Trawl	<90mm	none
Pelagic Seine	<90mm	none
Gill net	<90mm	none
Trammel net	<90mm	none
Beam Trawl	<90mm	none
DREDGE	all	none
POTS	all	none

4.1.2 Cod Zones Multi-annual Plan

The compilation of effort data as described in this report represents a continuation of a process which was initiated in association with the establishment of recovery plans for various European cod and hake stocks.

In addition to other properties, major gear types are used to identify fisheries which are not effort regulated. The notation and categorisation effort regulated fisheries used has reflected that defined in the relevant technical regulations. The most recent revision of the cod recovery plan, and the associated effort regime are described in Regulation 1342/2008.

Under the revised 'cod plan' the following gear groupings are set out in Annex I of the Regulation together with areas in which they apply. Throughout the report reference is made to gears such as TR1, TR2 etc. Under the revised scheme Member States are allocated 'effort pots' in KW*days for each category which can then be managed nationally. EU allocated 'days at sea' per vessel are no longer applicable. The following summary of gear and area codes that apply in the current cod plan is taken from Annex 1 of Regulation 1342/2008.

ANNEX I
Effort groups are defined by one of the gear groupings set out in point 1 and one of the geographical areas set out in point 2.

1. Gear groupings

(a) Bottom trawls and seines (OTB, OTT, PTB, SDN, SSC, SPR) of mesh:
TR1 equal to or larger than 100 mm,
TR2 equal to or larger than 70 mm and less than 100 mm,
TR3 equal to or larger than 16 mm and less than 32 mm;

(b) Beam trawls (TBB) of mesh:
BT1 equal to or larger than 120 mm
BT2 equal to or larger than 80 mm and less than 120 mm;

(c) Gill nets, entangling nets (GN);

(d) Trammel nets (GT);

(e) Longlines (LL).

2. Groupings of geographical areas:
For the purposes of this Annex, the following geographical groupings shall apply:
(a) Kattegat;
(b) (i) Skagerrak; (ii) that part of ICES zone IIIa not covered by the Skagerrak and the Kattegat;
ICES zone IV and EC waters of ICES zone IIa; (iii) ICES zone VIId;
(c) ICES zone VIIa;

(d) ICES zone VIa.

This categorisation is relatively simple when compared to that of the previous version of the cod recovery plan , and the number of 'special conditions' under which vessels have differing allocations of effort is relatively restricted. The current cod recovery plan makes allowance for vessels which can demonstrate a track record of having caught less than 1,5% cod to be excluded from the effort regime (Regulation 1342/2008, Article 11, para 2b). There is also scope for groups of vessels to be allocated additional effort if they participate in discard reduction or cod avoidance schemes leading to equivalent or greater reductions in cod mortality than the corresponding effort restriction (Regulation 1342/2008, Article 13, para 2c). These conditions are represented in the database as follows:

Condition	Code
Effort deployed by those boats granted the <1.5% derogation excluding them from the effort regime	CPart11
Effort deployed by vessels operating in Member State schemes under Article 13	CPart13

However, STECF EWG 12-06 is requested under the specific ToR 11 to assess partial fishing mortality and fishing effort over the period 2008-2011 by each of the provisions of Article 13, paragraph 2, points a (catching less than 1% cod), b (catching less than 5% cod), c (cod avoidance or discard reduction plan) and d (west to the West of Scotland line), respectively. The Member States aggregated figures are then encoded by CPart13.2.a-d.

4.1.3 Southern hake and Nephrops

Notation devised for effort categories specified under Annex IIB of Regulation (EC) No. 57/2011 remains the same as in previous reports. Under Annex IIB gear groups are defined under point 3 and special conditions under point 5.2. In 2007 gear group definitions were made for bottom trawls, gill nets and bottom long lines. These groupings were merged in the 2008 legislation. The working group considered maintaining the categories as defined in 2007 was important in terms of maximising the clarity of information from results. Therefore gear groupings have been kept consistent with those from the Annex IIB in 2007 (found in regulation (EC) No. 41/2007). Table 4.1.3.1 links notation with gear group and special conditions. So, for example, a vessel using a gill net of mesh size ≥ 60mm and conforming to the hake catch composition rules would belong to derogation "3.b.i IIB52a".

Table. 4.1.3.1 Gear group and special conditions of Annex IIB, Reg. (EC) No. 57/2011

Derogation			Mesh size range		Special Condition	
Gear group Point 3 1	Special condition Point 7 2	Gear	mesh size mm From	mesh size To mm	Hake landings<5 tonnes in each of the years 2001, 2002 and 2003	Nephrops landings <2.5 tonnes in each of the years 2001, 2002 and 2003
3.a		TD	32	inf		
3.b		G	60	inf		
3.c		LL	-	-		
3.a.i	5.2.(a) & 5.2.(b)	TD	32	inf	x	x
3.b.i	5.2.(a) & 5.2.(b)	G	60	inf	x	x
3.c	5.2.(a) & 5.2.(b)	LL	-	-	x	x

TD = Trawl of Danish seine or "similar gears" (dredges are included in similar gears)
G = Gill net
LL = Long lines
1. Gear groupings correspond to Annex IIB in Reg (EC) No. 57/2011. Special conditions 5.2.(a) and 5.2.(b) cannot be complied with independently.

4.1.4 Western Channel sole

Under Annex IIC gear groups are defined under point 3 and special conditions under point 7. Table 4.1.4.1 links notation with gear group and special conditions. So, for example, a vessel using a static net of mesh size less than 220mm belongs to derogation "3.b".

Table. 4.1.4.1 Gear group and special conditions of Annex IIC, Reg. (EC) No. 40/2008. Note that no special conditions are currently in operation under Annex IIC.

Derogation			Mesh size range		Special Condition
Gear group Point 3	Special condition Point 7	Gear	mesh size mm From	mesh size To mm	
3.a		BT	80	inf	none
3.b		GE & TR	0	219	none

BT = Beam Trawl
GE = Gill net or entangling net
TR = Trammel net

4.1.5 Celtic Sea

STECF EWG 12-12 defined the codes of gears as identical to the ones for the cod zones given in section 4.1.2.

4.1.6 Bay of Biscay

STECF EWG 12-12 defined the codes of major gear groups as identical in the 2012 DCF data call with an identification of the boats holding a special fishing permit as defined in R (EC) No 388/2006, encoded as SBcIIIart5.

4.1.7 Western Waters and Deep Sea

STECF EWG 12-12 defined the codes of major gear groups as identical in the 2012 DCF data call with an identification of the boats conducting deep sea trips, encoded as DEEP.

4.2 Data call

The DCF data call 2012 to support fishing effort regime evaluations published on 2 March 2012 with a deadline on 4 May 2012. The data call is fully documented at the JRC DCF web page: https://datacollection.jrc.ec.europa.eu/home

The STECF EWG 12-12 notes that the 2012 data call is largely consistent with the data call issued in 2011 for the same purpose. However, there was one new table defined for landings by ICES statistical square by fisheries to complement the information on fishing activities by square.

4.3 Data policy, formats and data availability

Originally, the catch and effort data base structures used by STECF-SGRST were developed by the ICES Study Group on the Development of Fishery-based Forecasts (ICES CM 2004/ACFM:11, 41 pp.) with few amendments required for the review of specific fishery regulations. Over time, there have been numerous changes to the original database and the way in which data are stored and accessed in order to reflect changes to some of the effort regimes and to accommodate data from deep-water and Fully Documented Fisheries.

Experts reported on national data policies for the national fleet specific landings, discards and effort data and generally supported the continued use of the data by STECF but with required permission for any use by other scientific or non-scientific groups. This implies that national experts need to be contacted for their consent before granting access to the data.

JRC requests to be informed about applications for data access and any notifications.

4.3.1 Data availability Table A Catch 2003-2011

Table 4.3.1.1 Overview of the catch data submission for the 2012 Fishing Effort Regimes data call. In bold the dates when catch data where submitted after the official submission deadline (4th of May).

Country	Data Submission	First Submission (Deadline 4-May)	Last Submission (Meeting 24-September to 28-September)
BEL	DCF website	**31-May**	
DEU	DCF website	3-May	**11-Jun**
DNK	DCF website	3-May	**14-Jun**
ESP	none		
EST	DCF website	3-May	
FIN	DCF website	3-May	
FRA	DCF website	4-May	**11-Jun**
GBR	File in the meeting	**12-Jun**	**14-Jun**
GBR SCO	DCF website	3-May	**13-Jun**
IRL	DCF website	4-May	
LTU	DCF website	2-May	**18-May**
LVA	DCF website	28-Apr	**21-May**
NLD	DCF website	**14-May**	**4-Sept**
POL	DCF website	27-Apr	2-May
PTR	DCF website	4-May	
SWE	DCF website	4-May	**24-May**

4.3.1.1 Belgium

A total number of 1453 records were submitted only for 2011. No updates for previous years data. There were 104 records with missing mesh size information for gear types such as trammels, dredges and gillnets. Moreover, many records regard species that are not requested in the official data call, like BLL, RJN, RJM, RJC and RJH. Specific condition reported for 2011 data was SBCIIIart5.

Belgium provided fleet specific landings data for 2003-2011 derived from official logbook databases for all vessels ≥10 meters. The data covers all areas in which the Belgian fleets are active and conforms to the requested aggregation, by quarter, area, gear and mesh sizes.

The species provided are: anglerfish, brill, cod, dab, haddock, hake, lemon sole, Nephrops, plaice, saithe, pollack, sole, skates and rays, turbot and whiting. The age composition on landings for sole and plaice in ICES subdivisions IV, VIIa, VIId, VIIfg and sole in subdivision VIIIab have been provided by quarter for the Belgian beam trawlers. The total number of samples, as well as numbers aged and length measurements by quarter have been apportioned in the same ratio as total quarterly beam trawl fleet landings to annual landings.

Discard data for 2004-2011 were provided from the Belgian Beam trawl fleet for the following species: anglerfish, brill, cod, dab, haddock, hake, lemon sole, plaice, saithe, sole, skates and rays, turbot and whiting. The areas covered are 4, 7a, 7d, 7e, 7f, 7g, 8a and 8b. Belgian discard data represent all ages and are disaggregation by age for cod in areas 4, 7a, 7e, 7f and 7g; for sole in areas 4, 7a, 7d, 7f, 7g, 8a and 8b; for plaice in areas 4, 7a, 7d, 7f and 7g. The discards information for the other species mentioned above are without disaggregation by age. Information by area for all observer-trips during the year has been merged together, giving an annual percentage of discards estimate per species. The annual estimates of discard rate have been assumed to apply in each of the 4 quarters.

There is no information on misreporting. The landings in the database are based on combined information of logbook data and sale slips. The actual landed weight is split according the logbook information on hours fished in the respective rectangles.

As Belgium does not have trip-by-trip information on the true mesh size for its fleets for 2003-2006, Belgium (as well as other countries) agreed to assume certain mesh sizes for its beam trawler fleets. Beamers operating in the Bay of Biscay (VIIIa,b) were assumed to use a 70-79 mm mesh size as this is the minimum legal mesh size in that area for beamers. For the North Sea, the trips were split according to the rectangles reported in the logbooks, and mesh sizes were allocated in line with Council Regulation (EC) N° 2056/2001. This regulation stipulates that beam trawlers are prohibited to use less than 120 mm in ICES Division IV to the north of 56° 00' N. Therefore all beam trawl information from this part of ICES Division IV was accounted against an assumed >120mm mesh size. The same regulation also stipulates that within the rectangle with coordinates along the east coast of the UK between 55° 00' N and 56° 00' N and the points 55° 00' N – 05° 00' E and 56° 00' N – 05° 00' E, beam trawlers can use 100 to 119 mm mesh size. Here also it was assumed that the mesh size used by the Belgian Beam trawl fleet was 100-119 mm. For the rest of ICES Division IV (the southern part) a mesh size of 80-89 mm was assumed for the beam trawlers. Apart from these assumed mesh size which are based on rectangle information from logbooks, it was also assumed that the shrimp fishery used a mesh size of 16-31 mm. The mesh size of the beam trawl fleets in the other area's was assumed to be 80-89 mm. Since 2007 mesh sizes used by beam trawls operating in different areas have been based on the true mesh sizes used on each trip.

The Belgian gear categories are: beam, dredge, gill, longline, otter, and trammel. For trammel nets, no assumptions of mesh sizes were made. Specific condition reported for 2011 data was SBCIIIart5 for all Belgian vessels operating in areas 8a and 8b.

Belgium did not provide any information for vessels under 10m.

4.3.1.2 Denmark

Danish data were submitted on time, and with the requested information for all tables. Tables A-D were submitted for 2011 only and appended to the previous time series. As in previous years, some few records did not pass the Data Submission filters when some information on e.g. gear, mesh size or fishing area was missing, but these records represent only a very small proportion of the reported Danish fisheries activities.

However, some issues were discovered during the course of the EWG for tables A-D. A minor one was corrected straight away and resubmitted during the early days of the meeting. Three other issues are to be mentioned:

- The reporting of Fully Documented Fishery is particularly ambiguous in the data call. Denmark interpreted it as such as that FDF records should be reported separately only (and therefore substracted from the total estimate within the same strata). The data call doesn't make it explicit enough that FDF should be actually summed up twice. As a consequence of this ambiguity, all Danish catches and effort figures in the specon "none" where some FDF fisheries are involved were by inadvertence underestimated. This misinterpretation was also present in the 2011 report of the STECF, but the extent of FDF fisheries was lesser in 2010 than in 2011 and this was therefore not noticed. This issue was manually addressed by the STECF EWG for all tables A-E and all years, leading to more accurate reporting in 2012.

- The data regarding small vessels (<10m in Annex IIa and <8m in Baltic) was observed to be erroneous (and thus largely underestimated) for data up to 2009

- Fishing activity (days at sea) in the Baltic up to 2007 is missing.

Denmark will make sure that these will be accounted for in future submissions, and underlines also the absolute need to remove all ambiguities and potential sources of misinterpretation in future data calls.

STECF EWG 12-12 noted that the Danish 2011 submission does not cover the special conditions BACOMA or T90.

4.3.1.3 Estonia

STECF-EWG 12-12 notes that discards were provided for flounder only. Mesh sizes are inconsistent with the data call for fleet <12 m.

4.3.1.4 Finland

Finish data were submitted in an inconsistent format together with a hint towards the data confidentiality clause in the DCF. STECF EWG 12-12 could not make use of the Finish data given its specific ToR.

4.3.1.5 France

No age data provided. Discards data provided only for 2010 and 2011 but care is required in the use of these data to draw firm conclusions about catch composition. Some missing area information was evident.

4.3.1.6 Germany

Fleet specific landings and estimated discard data were provided as outlined in the data call for 2003-2011 derived from official logbook data covering all vessels ≥10m. For the Baltic information for vessels >=8m is provided. For 2009-2011 also some information for vessels <10m in the North Sea are provided. These information, however, do not cover all vessels in this category as logbooks are not mandatory for these vessels. An extra table is provided for vessels <10m (North Sea) and <8m (Baltic) based on landings declarations from these vessels in a more aggregated format. All data provided do not include unallocated landings. The estimation of discards is based on about 20-30 observer trips per year. The sampling scheme does not cover all quarter-gear-mesh size combinations in the data call. Therefore, final discard estimates in this report are to some extent based on observations from other countries. The data consider the aggregation by quarter, area, gear, mesh size, and existing derogations including special conditions of 8.1.a, 8.1.c, 8.1.d, 8.1.e and 8.1.f for the

years 2003-2008 as requested. For 2009 onwards the special conditions from the new cod management plan are used.

4.3.1.7 Ireland

Ireland provided fleet specific landings data for 2003-2011 derived from declared landings within the national logbook database (IFIS) for all vessels ≥10 meters in length. Operational landings information was used in order to provide landings data within the Biologically Sensitive Area (BSA). All species requested by the group and landed by Irish vessels have been provided in the requested aggregation. The following special condition information was supplied: none, CPart13, CPart11 and DEEP. SPECON DEEP is a duplication of effort within the relevant areas.

Under 10 meter vessels are not required to complete logbooks, therefore landings data from these vessels are obtained from monthly reports. These reports provide species live weight by ICES area on a monthly basis. No vessel, gear, or effort information is recorded. There is some doubt as to the accuracy of these monthly reports.

It was not possible to accurately aggregate data to the level of EU, coast, and RFMO. Data was assigned according to the following: Where an EU category existed within an area, all data from that area was categorised as EU, with the exception of ICES division X assumed to be RFMO. Those ICES divisions without an EU category where assumed as 1 coast and 2 coast.

There is no quantitative information on misreporting although area misreporting for cod is known to be an issue between VIIg and VIIa.

Revisions have been made to the 2003-2010 data due to continuing revisions and improvements to the national database, in addition to a revision of the methodology used to estimate discards.

Biological Landings estimations: Irish biological landings information is not recorded with mesh size information, this was re-constructed by linking to the logbooks database, where possible.

Samples were raised to the landings using the sample weights. The sample weights were estimated using length-weight relationships for each species (estimated for all quarters and areas within each year). Numbers-at age were estimated by applying age-length keys (ALKs). The ALKs are built up from aged fish from the relevant year, quarter and division. Gear and vessel parameters are assumed to be irrelevant for ALK data. Length classes with missing ages were filled in using an automatic procedure based on methods described in Gerritsen et al. (2006). Numbers-at-age for unsampled fleet segments were not estimated.

Discard and biological Discards estimations: Discard length distributions were raised to trip level and expressed in numbers (at length) per hour fished. The mean discard numbers at length per hour fished were estimated for each year, gear and ices division. OTTER trawl gears were further split into CRU (at least 50% Nephrops) and DEF (at least 50% demersal fish). ALKs were applied to these using the same approach as was used for the landings. The total fishing effort by quarter, vessel length category, gear, mesh size category, area, and special conditions was then used to estimate the discard numbers at age for each of these fleet segments.

WARNING: Due to the very high level of disaggregation, most of the fleet segments (year, quarter, vessel length, gear, mesh, area and specon) have no sampling data and many data points have been interpolated from other fleet segments. It is therefore not appropriate to re-aggregate the data in any way as this would result in highly imprecise and inaccurate data.

It has long been recognised by ICES expert groups like WKACCU; WKPRECISE; WKMERGE and WKPICS that sampling at highly resolved strata (fleet segments) is inefficient and will lead to over-stratification and problems of under-sampling or non-sampling of strata, and poor control over sampling probabilities. Instead, these expert groups advise that sampling frames and sample selection schemes should be specified with temporally stable strata that are capable of providing sufficient data for the required metiers and fishing

grounds. For this reason it is inappropriate for STECF to demand data at a higher level of disaggregation than the sampling design allows.

4.3.1.8 Latvia

STECF EWG notes that according to the Latvian National Programme discard data should to be collected for cod only.

4.3.1.9 Lithuania

STECF EWG 12-12 notes that discards for cod were estimated and provided only.

4.3.1.10 The Netherlands

The Netherlands only provided catch data for 2011. No updates for previous years were submitted. There were no problems with the landings data, but there were problems with the discard data. The quality of the discard data as such is not problematic. There were problems with processing the discard data (aggregating and raising) in a consistent way this year. There are 2 sources which raises questions on the reliability 1) the internal inconsistency of the time series and 2) different data have been send to other working groups. For this reason, the reliability of the discard data provided by the Netherlands in 2011 was questionable. One of the more specific problems was solved during the meeting, making the reliability of the data higher. This data was processed and used by the EWG. The remaining issues were also solved during the meeting but were too late to be processed without disturbing the work of the EWG. In order to include the most accurate and updated discard values and having the agreement of the experts of the EWG, the chairman and DG MARE officials, a re-submission for 2011 data set took place on the 4th of September 2012 which included updated discard values. These values were used in order to update all the necessary data tables, figures and appendixes of the report during the EWG 12-12, 24-28 September 2012.

4.3.1.11 Poland

Comparison of 2011 mesh size data with 2004-2010 shows that they are not consistent and significantly different. Neither mesh size nor SPECON (BACOMA window, T90) information were available from the database for 2004-2010. Thus these information were estimated based on expert knowledge and assumptions. Targeted species assemblages (métier), actually fish species caught and gear used were taken into account to identify mesh size. In 2011 data about mesh size were calculated based on actual information derived from logbooks, this caused that many "-1" values (missing values) which were reported for 2001-2010, become known and changed into "16-31" or "32-54" in 2011. Information on discards was provided for cod (2003-2011) taken in fisheries targeting cod and discards for herring, sprat and flounder was delivered for 2011 only.

4.3.1.12 Portugal

Landings: Portugal presented data on landings for the period 2003-2011 for all species. Data from all years were resubmitted in kilograms and not in tons as requested in the data call. No differences were found between the resubmitted data in 2011 and the data submitted in 2010.

Discards: In the period 2004-2010, hake discards were provided, assuming that they were proportional to the trawl landings, the only gear sampled. However, considering that, according to the Data Collection Framework

raising procedures, discards are raised using effort and not landings and that the data call grouping is not consistent with the sampled DCF métiers, hake discards from Portugal were removed from the database.

The Portuguese annual discard estimates have high coefficients of variation (> 30%). The assignment of these data to the data call disaggregated métiers when the métiers do not perfectly match is not possible without making strong assumptions different from those used in the established raising procedures and that could lead to completely different total discard estimates.

Therefore, data on hake annual discards by DCF métiers were provided and included in tables and figures in aggregated form.

At present, the procedure used to raise discards from haul to fleet level in the Portuguese trawl fisheries is adapted from Fernandes et al. (2010) (Jardim and Fernandes, in prep.). Using this procedure, species with low frequency of occurrence or abundance in discards (i.e., a large number of zeros in the data set) cannot be reliably estimated at fleet level (Jardim et al., 2011). The frequency of occurrence and abundance of most species in the discards of the Portuguese bottom trawl fleet was below 30%. Consequently, annual trawl discard volumes and length frequencies at fleet level were only estimated for some métiers, species and years.

In what concerns gillnets and trammel nets, sampled from late 2009 onwards, the sampling methodologies used in these fisheries were only recently standardized (Prista and Jardim, 2011). These are only two of the several métiers that can be performed by the so-called Portuguese polyvalent fleet (or multi-gear fleet). Besides nets, the vessels in this fleet are also frequently licensed to use pots and bottom longlines, and frequently carry out several métiers in a single fishing trip and/or switch métiers during the year. Such uncertainties in determining fishing effort at métier level, along with low spatial-temporal coverage of fleet activity and difficulties in raising data from multi-métier fishing trips to fleet level have hampered the estimation of gillnet and trammel net discards. No estimates at fleet level have been performed to date. Bottom longlines are not among the selected métiers for onboard sampling under the DCF National program.

Norway lobster is a valuable species and discards are negligible. No discard estimates were presented for other species due to the reasons presented above.

Age data: There is a serious concern about European hake growth. Tagging experiences show that growth rate could be two times higher than expected, although the true value is uncertain (ICES, 2009). At present, the assessment model is length based (ICES, 2010a).

No age data were provided for hake neither for the other main species. For Norway lobster, there is not a standardized ageing methodology.

4.3.1.13 Spain

Spain did not provide data this year and in 2011. The following comments correspond to the data provided in 2010: 2002-2009 landings and 2003-2009 discards data were provided by quarter, gear, mesh size range, area and special condition. Spain did not provide 2010 and 2011 data. 2000 and 2001 data were not provided because the logbooks data low quality those years. 2002-2009 8c and 9a data for Annex IIB and Deep Species and 2009 all areas data for DEEP SPECIES areas were submitted. Vessel length categories, allowed activity, fishing activity and fishing capacity were not identified for 2002-2008 8c and 9a data. No EU/RFMO/COST identification for ICES Subarea 10 and Divisions 7j, 7k, 8d, 8e, 8b, 14b and CECAF areas 34.1.2 and 34.2.0.

All discards data were deleted as there are unreasonable values reported. This is because the DCF sampling scheme is very wide (by year and for both ICES Divisions 8c and 9a together) and the Data Call raising strata are very detailed (quarter and ICES Division); therefore there were very few samples by Data Call stratum and the bias was huge. After, 2002-2009 8c and 9a otter hake discards were calculated with 2010 ICES WGHMM respective discard rates.

There are not hake, *Nephrops* and monkfish ages since nowadays there are relevant doubts in the specific international working groups about hake and monkfish ageing (see February 2010 STECF Hake Benchmark and 2011 ICES WGHMM) and there is not a standardized methodology for Nephrops ageing.

No information about vessels under 10 meters was provided since data source was logbooks, but Annex IIB does not deal with vessels under 10 meters.

4.3.1.14 Sweden

Sweden has provided catch data, both landings and discards in the required format for the years 2003-2011. Age distribution data were submitted for cod landings and discards in the Baltic, Skagerrak and Kattegat and for plaice discards in Skagerrak and Kattegat. Landings in tonnes were retrieved from logbooks and the age distribution data for landings were collected by market sampling. The discard data were collected under the Swedish on board discard sampling programme. No discards have been submitted for fisheries not covered by the sampling programme.

4.3.1.15 United Kingdom

Data for 2011 were submitted during the experts meeting, and an error relating to the recording of fully documented fisheries effort under the IIA regime area 3b was identified and corrected for 2010. This led to an increase in catch for 2010 under Cpart13 (for TR1) and None (for GN1 and small amounts for unregulated gears) categories on last years' submission. Country codes included ENG, GBG, GBJ, NIR and IOM. In total, 35459 records were submitted or updated. As in previous years, there were a number of records with missing mesh size information and a combination of DEEP specific condition and BSA area which were ignored during the analysis. Specific conditions reported were DEEP, Cpart13 and FDFIIA.

Scotland: New data was submitted only for 2011. Scotland supplies data where records present no gear type information and/or no mesh size information for the purpose of data completeness. As in previous years there were records for area BSA and specific condition DEEP which were ignored in the analysis. Specific conditions reported were DEEP, FDFIIA, CPart11 and CPart13.

Landings and discard numbers at age were derived from market sampling and discard sampling data and the data was stratified by west coast (division VIa) and east coast (sub area IV). Discard numbers at age were supplied for cod, haddock, whiting and saithe if landings came from the above areas and gear category was one covered by the sampling scheme.

Landed weights were differentiated according to the data specification but no distinction could be made between mesh size categories in terms of proportions at age in the landings and discards, or in terms of the ratio of discards to landings. In addition, pooled age-length keys mean age/length relationship are common across most gears.

For data prior to 2009 adhoc fill-ins were used for missing discard sampling strata and saithe discards were not available in some years. For data from 2009 only annual discard data is available, i.e. comparisons of discard ratios can not be made between quarters.

Vessels <10m: No specific consideration is given to estimating discards for vessels < 10m and discard sampling staff tend not to sail on vessels in the 10 metre and under category. In 2003 the Scottish Fisheries Statistics showed landings of the main commercial demersal species from vessels <=10 m to be below the level where sampling intensities as defined in Appendix XV (Section H) of regulation (EC) 1639/2001 (Table 2) requires sampling to be carried out. Estimation of demersal discards for vessels <10m is based on the assumption that all vessels targeting Nephrops and operating in the same sampling area have the same catching and discarding characteristics.

4.3.2 Data availability Table B nominal fishing effort 2000-2011

Table 4.3.2.1 Overview of the effort data submission for the 2012 Fishing Effort Regimes data call. In bold the dates when effort data where submitted after the official submission deadline (4th of May).

Country	Data Submission	First Submission (Deadline 4-May)	Last Submission (Meeting 24-September to 28-September)
BEL	DCF website	**31-May**	**12-Jun**
DEU	DCF website	3-May	
DNK	DCF website	3-May	**14-Jun**
ESP	none		
EST	DCF website	3-May	**12-Jun**
FIN	DCF website	3-May	
FRA	DCF website	4-May	
GBR	File in the meeting	**12-Jun**	**14-Jun**
GBR SCO	DCF website	3-May	
IRL	DCF website	4-May	
LTU	DCF website	2-May	
LVA	DCF website	3-May	
NLD	DCF website	**14-May**	**4-Sept**
POL	DCF website	27-Apr	**14-Jun**
PTR	DCF website	3-May	
SWE	DCF website	4-May	**24-May**

4.3.2.1 Belgium

Data submitted mainly for 2011. 151 records in total submitted. There were 35 records submitted with no mesh size information for trammels, gillnet and dredges. Specific condition reported for 2011 data was SBCIIIart5.

Belgium provided effort data (kw*days at sea) for 2003-2011 by rectangle and by quarter, for all relevant areas where the Belgian fleets are operational. Since 2003 effort (and landings) are split proportionally over the rectangles as effort became available by rectangle from logbook data. As Belgium does not have trip-by-trip information on the true mesh size for its fleets for 2003-2006, Belgium (as well as other countries) agreed to assume certain mesh sizes for its beam trawler fleets. Beamers operating in area VIIIa,b were assumed to use a 70-79 mm mesh size as this is the minimum legal mesh size in that area for beamers. For the North Sea, the trips were split according to the rectangles reported in the logbooks, and mesh sizes were allocated in line with Council Regulation (EC) N° 2056/2001. This regulation stipulates that beam trawlers are prohibited to use less than 120 mm in ICES Division IV to the north of 56° 00' N. Therefore all beam trawl information from this part of ICES Division IV was accounted against an assumed >120mm mesh size. The same regulation also stipulates that within the rectangle with coordinates along the east coast of the UK between 55° 00' N and 56° 00' N and the points 55° 00' N – 05° 00' E and 56° 00' N – 05° 00' E, beam trawlers can use 100 to 119 mm mesh size. Here also it was assumed that the mesh size used by the Belgian Beam trawl fleet was 100-119 mm. For the rest of ICES Division IV (the southern part) a mesh size of 80-89 mm was assumed for the beam trawlers. Apart from these assumed mesh size which are based on rectangle information from logbooks, it was also assumed

that the shrimp fishery used a mesh size of 16-31 mm. The mesh size of the beam trawl fleets in the other area's was assumed to be 80-89 mm. Since 2007 mesh sizes used by beam trawls operating in different areas have been based on the true mesh sizes used on each trip.

Voyage information on the national data base calculates days at sea based on the voyage start date and the voyage end date. For example, a voyage starting on one date and returning (landing) the following day will accrue 2 days at sea. Each day a vessel is at sea is counted only once with the effort details allocated according to the longest voyage on that date. Nominal effort in kwdays is calculated as days at sea multiplied by the power of the vessel in kilowatts at the voyage landing date. Activity and gear is assessed daily; where activity in a single day covers more than one area or more than one gear; that day's effort is allocated completely to the area/gear with the longest activity that day.

The Belgian gear categories are: beam, dredge, gill, longline, otter, and trammel. For trammel nets, no assumptions of mesh sizes were made. Specific condition reported for 2011 data was SBCIIIart5 for all Belgian vessels operating in areas 8a and 8b.

Belgium did not provide any information for vessels under 10m.

4.3.2.2 Denmark

Danish data were submitted on time, and with the requested information for all tables. Tables A-D were submitted for 2011 only and appended to the previous time series. As in previous years, some few records did not pass the Data Submission filters when some information on e.g. gear, mesh size or fishing area was missing, but these records represent only a very small proportion of the reported Danish fisheries activities.

However, some issues were discovered during the course of the EWG for tables A-D. A minor one was corrected straight away and resubmitted during the early days of the meeting. Three other issues are to be mentioned:

- The reporting of Fully Documented Fishery is particularly ambiguous in the data call. Denmark interpreted it as such as that FDF records should be reported separately only (and therefore substracted from the total estimate within the same strata). The data call doesn't make it explicit enough that FDF should be actually summed up twice. As a consequence of this ambiguity, all Danish catches and effort figures in the specon "none" where some FDF fisheries are involved were by inadvertence underestimated. This misinterpretation was also present in the 2011 report of the STECF, but the extent of FDF fisheries was lesser in 2010 than in 2011 and this was therefore not noticed. This issue was manually addressed by the STECF EWG for all tables A-E and all years, leading to more accurate reporting in 2012.

- The data regarding small vessels (<10m in Annex IIa and <8m in Baltic) was observed to be erroneous (and thus largely underestimated) for data up to 2009

- Fishing activity (days at sea) in the Baltic up to 2007 is missing.

Denmark will make sure that these will be accounted for in future submissions, and underlines also the absolute need to remove all ambiguities and potential sources of misinterpretation in future data calls.

STECF EWG 12-12 noted that the Danish 2011 submission does not cover the special conditions BACOMA or T90.

4.3.2.3 Estonia

STECF EWG 12-12 noted that the data provided are only for vessels >=12m.

4.3.2.4 Finland

Finish data were submitted in an inconsistent format together with a hint towards the data confidentiality clause in the DCF. STECF EWG 12-12 could not make use of the Finish data given its specific ToR.

4.3.2.5 France

No fishing activity data for 2000 – 2009. No fishing capacity data at all (asked as kW or GT depending of the area, would be easier to fill if it was duplicated in kW and GT). Some missing area information was evident.

4.3.2.6 Germany

Germany provided fleet specific effort data for 2000-2010 in the requested formats derived from official logbook data. However, data on vessels <10m in the North Sea and <8m in the Baltic do not cover all vessels and trips because these vessels normally do not have to fill out logbooks. For the scientific evaluations in this report, the calculation procedure follows closely the description in the STECF technical report "Some technical guidance towards national fleet specific fishing effort and catch data aggregation" (ISBN 978-92-79-12134-0). This implies a calculation of kw-days based on calendar days and effort related to rescue operations etc. are not subtracted. The data consider the aggregation by quarter, area, gear, mesh size, and existing derogations including special conditions of 8.1.a, 8.1.c, 8.1.d, 8.1.e and 8.1.f for the years 2000-2008. For 2009 onwards the special conditions from the new cod management plan are used.

4.3.2.7 Ireland

Ireland provided fleet specific kW*days-at-sea, GT*days-at-sea, and vessel numbers for 2000-2011 in the requested aggregation format, derived from the national logbook database (IFIS) for vessels ≥10 meters in length. The following special condition information was supplied: none, CPart13, CPart11 and DEEP. SPECON DEEP is a duplication of effort within the relevant areas. Days-at-sea data were constructed following the methodology guidelines provided by the Joint Research Council at a meeting held by the Commission in February 2009 were followed. Only one gear and area combination is applied to any one vessel day assigned according to the dominant fishing activity.

A revised dataset was submitted in 2012 for all previous years due to ongoing revisions and improvements within the national database from 2003.

Fishing activity and fishing capacity were not provided as Ireland does not operate within the areas for which this data was requested.

Mesh size information was only available from 2003 onwards.

Days-at-sea effort for 2000-2002 is presented as a calculated proxy, obtained from the average ratio of operational fishing days to days-at-sea by gear during 2003 to 2005.

Vessels less than 10m in length are not required to complete logbooks, and therefore no effort is available for these vessels.

It was not possible to accurately aggregate data to the level of EU, coast, and RFMO. Data was assigned according to the following: Where an EU category existed within an area, all data from that area was

categorised as EU, with the exception of ICES division X assumed to be RFMO. Those ICES divisions without an EU category where assumed as 1 coast and 2 coast.

4.3.2.8 Latvia

STECF EWG 12-12 noted that 2003 – 2008 data for fleet specific effort for small boats (<8m) were not provided, but 2005-2011 data for fishing activity are provided (if vessel don't have KW that's mean his effort will be zero).

4.3.2.9 Lithuania

No comments.

4.3.2.10 The Netherlands

The Netherlands provided effort data for 2011. No updates for previous years were submitted. The data was provided in the requested format using the official logbook data for vessels < 10 m, >= 10 <=15 m and >15 m. During the meeting it appears that fishing activity information for area 7e was missing, not only for 2011 but also for previous years. It was agreed that this data will be submitted after the meeting. Apart from this issue the data is considered to be reliable. In reply to the comment of the missing fishing activity data, a re-submission of the 2011 effort data took place on the 4th of September 2012 where values for fishing activity were included. The nominal effort values were kept unchanged. Comparing to the first submission of the effort data, optional fishing capacity values were not submitted.

4.3.2.11 Poland

STECF EWG 12-12 notes that a different method of estimation of mesh size ranges in 2011 (compared to the previous years) caused inconsistent mesh size classes, which used to be “110-156” in 2004-2010 period. This mostly concerns vessels under 10 meters. Other variables seem to be very consistent across years.

4.3.2.12 Portugal

Portugal provided kW*days, GT*days and number of vessels for 2000-2011 in the requested aggregation format, derived from the national logbook database for vessels ≥10 meters in length. Data are provided by quarter, vessel length, gear, mesh size range, area and special condition.

No data on allowed activity were provided.

Data on fishing activity and fishing capacity were provided for the regulated gears and for specon=NONE (under effort restrictions).

Vessels < 10 meters are not required to complete logbooks. Effort of these vessels was estimated based on sales records and data is not available for all fields of the data call.

4.3.2.13 Spain

Spain did not provide data this year and in 2011.

4.3.2.14 Sweden

Nominal effort data has been submitted in the required format for the years 2000-2011. Nominal effort data for vessels <10m LOA is not considered reliable until 2009 and this will be corrected until next year´s meeting.

4.3.2.15 United Kingdom

Data for 2011 were submitted during the experts meeting, and an error relating to the recording of fully documented fisheries effort under the IIA regime area 3b was identified and corrected for 2010 and 2011. This resulted in an increase in effort for 2010 under Cpart13 (TR1) and None (GN1 and small amounts for unregulated gears) categories. A total of 3825 records were submitted or updated. A number of records were submitted with missing mesh sizes for pots and dredges where mesh sizes are not applicable. Some records with both area BSA and specific condition DEEP submitted and ignored in the analysis. Specific conditions reported were DEEP, CPart13 and FDFIIA.

Scotland: New data was submitted for 2011 for all the fleets for vessels 10m and over and for vessels under 10 meters. Scotland supplies data where records present no gear type information and/or no mesh size information for the purpose of data completeness. As in previous years there were records for area BSA and specific condition DEEP which were ignored in the analysis. Specific conditions reported were DEEP, FDFIIA, CPart11 and CPart13. Any effort in the Cod Recovery Zone for TR1 and TR2 gears was assigned to special condition CPart13.

Vessels <10m: For vessels <10m effort is considered under reported 2000-2005 because of under reporting of POTS and shell fishing by hand. The <10m effort data for Scottish registered vessels 2000-2008 excludes voyages landing into ports in England and other non-Scottish areas of the UK. Scottish under 10m boats are known to use more than one type of gear on individual trips or within a quarter and multiple counting of boats is therefore significant.

4.3.3 Data availability Table C spatial fishing effort 2003-2011

Table 4.3.3.1 Overview of the spatial effort data submission for the 2012 Fishing Effort Regimes data call. In bold the dates when spatial effort data where submitted after the official submission deadline (4th of May).

Country	Data Submission	First Submission (Deadline 4-May)	Last Submission (Meeting 11-June to 15-June)
BEL	DCF website	**31-May**	**4-Jun**
DEU	DCF website	3-May	
DNK	DCF website	3-May	**14-Jun**
ESP	none		
EST	DCF website	3-May	
FIN	DCF website	3-May	
FRA	DCF website	4-May	

GBR	File in the meeting	**12-Jun**	**14-Jun**
GBR SCO	DCF website	3-May	
IRL	DCF website	4-May	
LTU	DCF website	2-May	
LVA	DCF website	3-May	
NLD	DCF website	**14-May**	**17-May**
POL	DCF website	27-Apr	**13-Jun**
PTR	DCF website	3-May	
SWE	DCF website	4-May	**24-May**

4.3.3.1 Belgium

Data submitted only for 2011. No updates for previous years' data. In total, 573 records were submitted. There were 50 records with missing mesh size information for gears such as trammels, gillnets and dredges. Specific condition reported for 2011 data was SBCIIIart5.

Belgium: Belgium provided effective effort by ICES statistical rectangle in units of hours trawled for the period 2003-2011, derived from the official logbook databases for all vessels ≥10 meters. The data covers all areas in which the Belgian fleets are active and conforms to the requested aggregation, by quarter, area, gear and mesh sizes. No spatial effort information is available for vessels less than 10m in length.

Trawled hours were calculated by summing fishing time to the aggregation level requested in the data call. To ensure consistency between datasets, the same base operational logbooks data was used as for the aggregation of days-at-sea effort.

As Belgium does not have trip-by-trip information on the true mesh size for its fleets for 2003-2006, Belgium (as well as other countries) agreed to assume certain mesh sizes for its beam trawler fleets. Beamers operating in the Bay of Biscay (VIIIa,b) were assumed to use a 70-79 mm mesh size as this is the minimum legal mesh size in that area for beamers. For the North Sea, the trips were split according to the rectangles reported in the logbooks, and mesh sizes were allocated in line with Council Regulation (EC) N° 2056/2001. This regulation stipulates that beam trawlers are prohibited to use less than 120 mm in ICES Division IV to the north of 56° 00' N. Therefore all beam trawl information from this part of ICES Division IV was accounted against an assumed >120mm mesh size. The same regulation also stipulates that within the rectangle with coordinates along the east coast of the UK between 55° 00' N and 56° 00' N and the points 55° 00' N – 05° 00' E and 56° 00' N – 05° 00' E, beam trawlers can use 100 to 119 mm mesh size. Here also it was assumed that the mesh size used by the Belgian Beam trawl fleet was 100-119 mm. For the rest of ICES Division IV (the southern part) a mesh size of 80-89 mm was assumed for the beam trawlers. Apart from these assumed mesh size which are based on rectangle information from logbooks, it was also assumed that the shrimp fishery used a mesh size of 16-31 mm. The mesh size of the beam trawl fleets in the other area's was assumed to be 80-89 mm. Since 2007 mesh sizes used by beam trawls operating in different areas have been based on the true mesh sizes used on each trip.

The Belgian gear categories are: beam, dredge, gill, longline, otter, and trammel. For trammel nets, no assumptions of mesh sizes were made. Specific condition reported for 2011 data was SBCIIIart5 for all Belgian vessels operating in areas 8a and 8b.

Belgium did not provide any information for vessels under 10m.

4.3.3.2 Denmark

Danish data were submitted on time, and with the requested information for all tables. Tables A-D were submitted for 2011 only and appended to the previous time series. As in previous years, some few records did not pass the Data Submission filters when some information on e.g. gear, mesh size or fishing area was missing, but these records represent only a very small proportion of the reported Danish fisheries activities.

However, some issues were discovered during the course of the EWG for tables A-D. A minor one was corrected straight away and resubmitted during the early days of the meeting. Three other issues are to be mentioned:

- The reporting of Fully Documented Fishery is particularly ambiguous in the data call. Denmark interpreted it as such as that FDF records should be reported separately only (and therefore substracted from the total estimate within the same strata). The data call doesn't make it explicit enough that FDF should be actually summed up twice. As a consequence of this ambiguity, all Danish catches and effort figures in the specon "none" where some FDF fisheries are involved were by inadvertence underestimated. This misinterpretation was also present in the 2011 report of the STECF, but the extent of FDF fisheries was lesser in 2010 than in 2011 and this was therefore not noticed. This issue was manually addressed by the STECF EWG for all tables A-E and all years, leading to more accurate reporting in 2012.

- The data regarding small vessels (<10m in Annex IIa and <8m in Baltic) was observed to be erroneous (and thus largely underestimated) for data up to 2009

- Fishing activity (days at sea) in the Baltic up to 2007 is missing.

Denmark will make sure that these will be accounted for in future submissions, and underlines also the absolute need to remove all ambiguities and potential sources of misinterpretation in future data calls.

STECF EWG 12-12 noted that the Danish 2011 submission does not cover the special conditions BACOMA or T90.

4.3.3.3 Estonia

STECF EWG 12-12 noted that data were provided only for vessels >=12m.

4.3.3.4 Finland

Finish data were submitted in an inconsistent format together with a hint towards the data confidentiality clause in the DCF. STECF EWG 12-12 could not make use of the Finish data given its specific ToR.

4.3.3.5 France

The EWG 12-12 noted some missing area and rectangle information especially at this level of desegregation (available for the ICES division but not for the statistical rectangle information).

4.3.3.6 Germany

No comments.

4.3.3.7 Ireland

Ireland provided effective effort by ICES statistical rectangle in units of hours fished for the period 2003-2011 in the requested aggregation format, derived from the national logbook database (IFIS) for vessels ≥10m in length. Hours fished were calculated by summing fishing time reported within the logbook operations. To ensure consistency between datasets, the same base operational logbooks data was used as for the aggregation of days-at-sea effort. The following special condition information was supplied: none, CPart13, CPart11 and DEEP. SPECON DEEP is a duplication of effort within the relevant areas.

No spatial effort information is available for vessels less than 10m in length.

It was not possible to accurately aggregate data to the level of EU, coast, and RFMO. Data was assigned according to the following: Where an EU category existed within an area, all data from that area was categorised as EU, with the exception of ICES division X assumed to be RFMO. Those ICES divisions without an EU category where assumed as 1 coast and 2 coast.

4.3.3.8 Latvia

STECF EWG notes that 2003 – 2008 data for fleet specific effort for small boats (<8m) were not provided, but 2005-2011 data for fishing activity are provided (if vessels don't have KW that's mean his effort will be zero).

4.3.3.9 Lithuania

No comments.

4.3.3.10 The Netherlands

The Netherlands only provided effort by rectangle data for 2011. No updates for previous years were submitted. The data was provided in the requested format using the official logbook data for vessels < 10 m, >= 10 <=15 m and >15 m. The data is considered to be reliable.

4.3.3.11 Poland

STECF EWG 12-12 notes that relative changes of the total effective effort seem to be consisted across the years. Mesh size data breakdown for 2011 is not comparable with previous years because of different aggregation method used (as described above).

4.3.3.12 Portugal

Portugal provided effective effort (in hours) by rectangle for the period 2003-2011 for vessels ≥ 10 meters with the aggregation requested by the data call, based on logbook data.

No spatial effort information is available for vessels < 10 meters, since they are not required to complete logbooks.

4.3.3.13 Spain

Spain did not provide data this year and in 2011.

4.3.3.14 Sweden

Specific effort data by rectangle has been submitted in the required format for the years 2003-2011.

4.3.3.15 United Kingdom

Data for 2011 were submitted during the experts meeting, and an error relating to the recording of fully documented fisheries effort under the IIA regime area 3b was identified and corrected for 2010 and 2011. This resulted in an increase in effort for 2010 under Cpart13 (TR1) and None (GN1 and small amount for unregulated gears) categories. In total, 14059 records were submitted or updated. There were a number of records for pots and dredges with missing mesh size information; records with area BSA and specific condition DEEP were also present and ignored during the analysis. Specific conditions reported were DEEP, CPart13 and FDFIIA.

Scotland: New data was submitted for 2011 for all the fleets for vessels 10m and over and for vessels under 10 meters.

Effort on voyages fishing in more than one rectangle is allocated according to logbook data. The hours fished entries are simply days at sea data multiplied by 24. This is because hours fished information has been proven unreliable from Scottish vessels (not a required field in logbooks).

Scotland supplies data where records present no gear type information and/or no mesh size information for the purpose of data completeness. As in previous years there were records for area BSA and specific condition DEEP which were ignored in the analysis. Specific conditions reported were DEEP, FDFIIA, CPart11 and CPart13.

4.3.4 Data availability Table D fishing Capacity in the Baltic Sea 2003-2011

Table 4.3.4.1 Overview of the capacity data submission for the 2012 Fishing Effort Regimes data call. In bold the dates when capacity data where submitted after the official submission deadline (4th of May).

Country	Data Submission	First Submission (Deadline 4-May)	Last Submission (Meeting 11-June to 15-June)
DEU	DCF website	3-May	
DNK	DCF website	3-May	
EST	DCF website	3-May	
FIN	DCF website	3-May	
LTU	DCF website	2-May	
LVA	DCF website	3-May	
POL	DCF website	2-May	
SWE	DCF website	4-May	

4.3.4.1 Denmark

Danish data were submitted on time, and with the requested information for all tables. Tables A-D were submitted for 2011 only and appended to the previous time series. As in previous years, some few records did not pass the Data Submission filters when some information on e.g. gear, mesh size or fishing area was missing, but these records represent only a very small proportion of the reported Danish fisheries activities.

However, some issues were discovered during the course of the EWG for tables A-D. A minor one was corrected straight away and resubmitted during the early days of the meeting. Three other issues are to be mentioned:

- The reporting of Fully Documented Fishery is particularly ambiguous in the data call. Denmark interpreted it as such as that FDF records should be reported separately only (and therefore substracted from the total estimate within the same strata). The data call doesn't make it explicit enough that FDF should be actually summed up twice. As a consequence of this ambiguity, all Danish catches and effort figures in the specon "none" where some FDF fisheries are involved were by inadvertence underestimated. This misinterpretation was also present in the 2011 report of the STECF, but the extent of FDF fisheries was lesser in 2010 than in 2011 and this was therefore not noticed. This issue was manually addressed by the STECF EWG for all tables A-E and all years, leading to more accurate reporting in 2012.

- The data regarding small vessels (<10m in Annex IIa and <8m in Baltic) was observed to be erroneous (and thus largely underestimated) for data up to 2009

- Fishing activity (days at sea) in the Baltic up to 2007 is missing.

Denmark will make sure that these will be accounted for in future submissions, and underlines also the absolute need to remove all ambiguities and potential sources of misinterpretation in future data calls.

4.3.4.2 Estonia

STECF EWG 12-12 notes that data for vessels <12 m were not provided.

4.3.4.3 Finland

Finish data were submitted in an inconsistent format together with a hint towards the data confidentiality clause in the DCF. STECF EWG 12-12 could not make use of the Finish data given its specific ToR.

4.3.4.4 Germany

Data on Capacity in the Baltic was provided as requested by the data call from logbook information. It was ensured that vessels do not count twice to get a realistic overview on fleet capacity. The full time series is covered.

4.3.4.5 Latvia

No comments.

4.3.4.6 Lithuania

No comments.

4.3.4.7 Poland

STECF 12-12 notes that relative data provisions and estimated changes between years look reliable and consistent.

4.3.4.8 Sweden

Fisheries capacity data of active vessels in the Baltic Sea has been submitted in the required format for 2011.

4.3.5 Data availability Table E spatial landings 2003-2011

Table 4.3.5.1 Overview of the spatial landings data submission for the 2012 Fishing Effort Regimes data call. In bold the dates when spatial landings data where submitted after the official submission deadline (4th of May).

Country	Data Submission	First Submission (Deadline 4-May)	Last Submission (Meeting 11-June to 15-June)
BEL	DCF website	**31-May**	**4-Jun**
DEU	DCF website	4-May	
DNK	DCF website	3-May	**14-Jun**
ESP	none		
EST	DCF website	3-May	4-May
FIN	DCF website	3-May	
FRA	DCF website	**8-Jun**	**11-Jun**
GBR	File in the meeting	**13-Jun**	**15-Jun**
GBR SCO	DCF website	3-May	4-May
IRL	DCF website	4-May	
LTU	DCF website	2-May	
LVA	DCF website	3-May	**15-May**
NLD	DCF website	**25-May**	
POL	DCF website	2-May	**14-Jun**
PTR	DCF website	3-May	4-May
SWE	DCF website	4-May	**24-May**

4.3.5.1 Belgium

A total number of 41 646 records were submitted for 2003-2011. There were 1 874 records with missing mesh size information for gear types such as trammels, dredges and gillnets. Moreover, many records regard species

that are not requested in the official data call, like BLL, RJN, RJM, RJC and RJH. Specific condition reported for 2003-2011 data was SBCIIIart5.

Belgium provided fleet specific landings data for 2003-2011 derived from official logbook databases for all vessels ≥10 meters. The data covers all areas in which the Belgian fleets are active and conforms to the requested aggregation, by quarter, area, gear and mesh sizes.

The species provided are: anglerfish, brill, cod, dab, haddock, hake, lemon sole, Nephrops, plaice, saithe, pollack, sole, skates and rays, turbot and whiting. The age composition on landings for sole and plaice in ICES subdivisions IV, VIIa, VIId, VIIfg and sole in subdivision VIIIab have been provided by quarter for the Belgian beam trawlers. The total number of samples, as well as numbers aged and length measurements by quarter have been apportioned in the same ratio as total quarterly beam trawl fleet landings to annual landings.

As Belgium does not have trip-by-trip information on the true mesh size for its fleets for 2003-2006, Belgium (as well as other countries) agreed to assume certain mesh sizes for its beam trawler fleets. Beamers operating in the Bay of Biscay (VIIIa,b) were assumed to use a 70-79 mm mesh size as this is the minimum legal mesh size in that area for beamers. For the North Sea, the trips were split according to the rectangles reported in the logbooks, and mesh sizes were allocated in line with Council Regulation (EC) N° 2056/2001. This regulation stipulates that beam trawlers are prohibited to use less than 120 mm in ICES Division IV to the north of 56° 00' N. Therefore all beam trawl information from this part of ICES Division IV was accounted against an assumed >120mm mesh size. The same regulation also stipulates that within the rectangle with coordinates along the east coast of the UK between 55° 00' N and 56° 00' N and the points 55° 00' N – 05° 00' E and 56° 00' N – 05° 00' E, beam trawlers can use 100 to 119 mm mesh size. Here also it was assumed that the mesh size used by the Belgian Beam trawl fleet was 100-119 mm. For the rest of ICES Division IV (the southern part) a mesh size of 80-89 mm was assumed for the beam trawlers. Apart from these assumed mesh size which are based on rectangle information from logbooks, it was also assumed that the shrimp fishery used a mesh size of 16-31 mm. The mesh size of the beam trawl fleets in the other area's was assumed to be 80-89 mm. Since 2007 mesh sizes used by beam trawls operating in different areas have been based on the true mesh sizes used on each trip.

The Belgian gear categories are: beam, dredge, gill, longline, otter, and trammel. For trammel nets, no assumptions of mesh sizes were made. Specific condition reported for 2003-2011 data was SBCIIIart5 for all Belgian vessels operating in areas 8a and 8b.

Belgium did not provide any information for vessels under 10m.

4.3.5.2 Denmark

Danish data were submitted on time, and with the requested information for all tables. Tables A-D were submitted for 2011 only and appended to the previous time series. As in previous years, some few records did not pass the Data Submission filters when some information on e.g. gear, mesh size or fishing area was missing, but these records represent only a very small proportion of the reported Danish fisheries activities.

However, some issues were discovered during the course of the EWG for tables A-D. A minor one was corrected straight away and resubmitted during the early days of the meeting. Three other issues are to be mentioned:

- The reporting of Fully Documented Fishery is particularly ambiguous in the data call. Denmark interpreted it as such as that FDF records should be reported separately only (and therefore substracted from the total estimate within the same strata). The data call doesn't make it explicit enough that FDF should be actually summed up twice. As a consequence of this ambiguity, all Danish catches and effort figures in the specon "none" where some FDF fisheries are involved were by inadvertence underestimated. This misinterpretation was also present in the 2011 report of the STECF, but the extent of FDF fisheries was lesser in 2010 than in 2011 and this was therefore not noticed. This issue was manually addressed by the STECF EWG for all tables A-E and all years, leading to more accurate reporting in 2012.

- The data regarding small vessels (<10m in Annex IIa and <8m in Baltic) was observed to be erroneous (and thus largely underestimated) for data up to 2009

- Fishing activity (days at sea) in the Baltic up to 2007 is missing.

Denmark will make sure that these will be accounted for in future submissions, and underlines also the absolute need to remove all ambiguities and potential sources of misinterpretation in future data calls.

STECF EWG 12-12 noted that the Danish 2011 submission does not cover the special conditions BACOMA or T90.

4.3.5.3 Estonia

STECF EWG 12-12 notes that the mesh sizes are inconsistent with the data call for vessels <12 m.

4.3.5.4 Finland

Finish data were submitted in an inconsistent format together with a hint towards the data confidentiality clause in the DCF. STECF EWG 12-12 could not make use of the Finish data given its specific ToR.

4.3.5.5 France

France only submitted data for 2011. The EWG 12-12 noted some missing area and rectangle information especially at this level of desegregation (available for the ICES division but not for the statistical rectangle information).

4.3.5.6 Germany

Germany aggregated the landings from logbook information as requested by ICES statistical rectangles and covers the full time series. No complete data on the spatial distribution of landings could be provided for vessels <10m in the North Sea and <8m in the Baltic as these vessels are not mandatory to provide detailed logbook information. Description on special conditions from part A and B also apply to part E.

4.3.5.7 Ireland

Ireland provided landings by ICES statistical rectangle for the period 2003-2011 in the requested aggregation format, derived from the national logbook database (IFIS) for vessels ≥10m in length. Landings were calculated by summing live weights reported within the logbook operations as declared landings are not available at the level of statistical rectangle. To ensure consistency between datasets, the same base operational logbooks data was used as for the aggregation of declared landings within the Landings database (A). The following special condition information was supplied: none, CPart13, CPart11 and DEEP. SPECON DEEP is a duplication of effort within the relevant areas.

No spatial landings information is available for vessels less than 10m in length.

It was not possible to accurately aggregate data to the level of EU, coast, and RFMO. Data was assigned according to the following: Where an EU category existed within an area, all data from that area was

categorised as EU, with the exception of ICES division X assumed to be RFMO. Those ICES divisions without an EU category where assumed as 1 coast and 2 coast.

4.3.5.8 Latvia

No comments.

4.3.5.9 Lithuania

No comments.

4.3.5.10 The Netherlands

No comments.

4.3.5.11 Poland

Comparison of 2011 mesh size data with 2004-2010 shows that they are not consistent and significantly different. Neither mesh size nor SPECON (BACOMA window, T90) information were available from the database for 2004-2010. Thus these information were estimated based on expert knowledge and assumptions. Targeted species assemblages (métier), actually fish species caught and gear used were taken into account to identify mesh size. In 2011 data about mesh size were calculated based on actual information derived from logbooks, this caused that many "-1" values (missing values) which were reported for 2001-2010, become known and changed into "16-31" or "32-54" in 2011.

4.3.5.12 Portugal

Portugal provided landings by species and by rectangle for the period 2003-2011 for vessels ≥ 10 meters with the aggregation requested by the data call, based on logbook data.

No spatial effort information is available for vessels < 10 meters, since they are not required to complete logbooks. No quality check was performed.

4.3.5.13 Spain

Spain did not provide data.

4.3.5.14 Sweden

Landings data by rectangle has been submitted in the required format for the years 2003-2011.

4.3.5.15 United Kingdom

Data for 2003-2011 were submitted during the experts meeting, as specified in the data call. An error relating to the recording of fully documented fisheries effort under the IIA regime area 3b was identified, but not corrected during the meeting. There is known to be an underestimate of effort for TR1 for CPart13 and GN1 (and small amount for non-regulated gears) for SPECON "None" under area 3b which will be corrected for the September meeting. Specific conditions reported were DEEP, CPart13 and FDFIIA.

Scotland: New data was submitted for 2003-2011 for all the fleets for vessels 10m and over and for vessels under 10 meters according to the data call. Specific conditions reported were DEEP (2003-2008), DEEP and CPart13 (2009) and DEEP, FDFIIA, CPart11 and CPart13 (2010-2011).

4.3.6 Fisheries specific landing and effort data 2003-2010 of small boats (< 8m or <10m)

This STECF EWG 12-12- report provides an overview of landings and effort data provided by the experts regarding their national fisheries of small vessels<8m or <10m, which are not obliged to report their landings through logbooks but rather do landings declarations.

Previously, information on small vessels has been provided in the reports only as a series of individual country reports describing activities and landings. In this report individual country information is again provided where available – new information is provided from several countries. An attempt is also made to compile available information for each area into overall figures. Since not all countries were able to fulfil this part of the data call, the aggregate estimates for each region of the cod recovery zone must be considered as minimum estimates. Nevertheless, they begin to give an idea of the scale of landings contributed by these smaller classes of vessel and can be used to comment on the likely relative importance compared with the regulated vessels.

Member States' data submissions for small boats are summarized in the previous sections by data table A-E, sections 4.3.1-5, respectively.

4.4 Estimation of fisheries specific international landings and discards

The estimation of fisheries specific international landings and discards is based on linking the information about fleet specific discards and catch and discards at age among countries and replacing poor or lacking values with aggregated information from other countries.

Reported data by country are aggregated by fisheries properties and raised to the officially reported landings or discards in the SGDFF 2004 (ICES 2004) format. Fisheries definitions are based on area, year, quarter, gear, mesh size groups, special conditions as defined in Council Reg. 41/2007 Annexes IIA-C and 57/2011 Annexes IIA-C or the multiannual management plans, and national fisheries (metiers) definitions.

The data management and estimation procedures follow the simple raising strategies outlined below :

- Data management:

  The fleets are classified to their management areas, years, quarters and effort regulated gear groups disregarding the countries and fisheries (metiers).

- Estimation of discard rates by fleet (DR):

  Let the following notation be: D=discards, L= landings, *snf* = sampled national fleet, *unf* = unsampled or poorly sampled national fleet.

  A poorly sampled fleet is defined as such when $SOP_{snf} < 0.75$ or $SOP_{snf} > 1.25$

The available landings and discards are aggregated (summed) by fleets and mean discard rates are calculated:

$$DR = \frac{\sum_{snf} D_{snf}}{\sum_{snf} (L_{snf} + D_{snf})}$$ with $D_{snf} \geq 0$ and with $L_{snf} + D_{snf} > 0$ otherwise 0 (means no catch)

Fleet specific discard amounts are calculated when no discard information is available by

$$D_{unf} = \frac{L_{unf}.DR}{(1 - DR)}$$ when D_{unf} is null (empty)

Fleets without any discards information remain as such.

- Estimation of landings in numbers and mean weight at age for non or poorly sampled national fleets

  Let *i* be the age reference

  Landings in numbers ($N_{snf,i}$) and mean weight at age ($W_{snf,i}$) are aggregated by sampled fleets when $SOP_{snf} \geq 0.75$ and $SOP_{snf} \leq 1.25$.

  Raising of numbers and mean weights at ages 0-11 to non or poorly sampled fleets by

$$N_{unf,i} = \frac{\sum_{snf} (N_{snf,i}).L_{unf}}{\sum_{snf} L_{snf}}$$

$$W_{unf,i} = mean(W_{snf,i})$$

  The mean weights are unweighted and an appropriate weighing procedure, i.e. number of fish measured, should be explored.

  Fleets without any landings at age information remain as such.

- Estimation of discards in numbers and mean weight at age for non or poor sampled fleets

  Discards in numbers ($N_{snf,i}$) and mean weight at age ($W_{snf,i}$) are aggregated by sampled fleets when $SOP_{snf} \geq 0.75$ and $SOP_{snf} \leq 1.25$ along the same procedure as for the landings.

  Raising of numbers and mean weights at ages 0-11 to non or poorly sampled fleets by

$$N_{unf,i} = \frac{\sum_{snf} (N_{snf,i}).D_{unf}}{\sum_{snf} D_{snf}}$$

$$W_{unf,i} = mean(W_{snf,i})$$

The mean weights are unweighted and an appropriate weighing procedure, i.e. number of fish measured, should be explored.

Fleets without any landings at age information remain as such.

An example of this raising procedure is given in Table 15.2.3.2 under the header "Discards", the values between parenthesis are the estimated values.

- Catch at age estimation including discards

  Catches by fleets are estimated as the sum of landings and discards. Missing discards are ignored.

  Catches at ages 0-11 in numbers are estimated as the sum of landings at age in numbers and discards at age in numbers. Missing discards are ignored.

  Mean weights at ages 0-11 are estimated at weighted means (according to ratios of landings at age and discards at age to catches at age).

  Finally, all fleets' catches and catches at ages in numbers and mean weights are aggregated finally over management areas, years and effort regulated gear groups.

  Fleets without any information on discards or landings at age and discards at age remain unchanged and need to be raised separately on an agreed basis in case that they constitute significant landings.

The EWG-11-11 notes that sampling of catch at sea including discards is expensive and difficult. This means that sampling coverage tends to be rather limited, and estimates of discards are subject to high uncertainty. This is true of all the discard data used here, and in some cases the discard estimates presented represent the first attempt to use the discard data from some fisheries in an advisory context. Where the coverage is considered adequate to estimate the overall catch compositions of specific fleets these are presented, but they are intended only to provide an approximate indication of fleet catch compositions. In cases where there are little data, the estimated discard rates may be biased and imprecise (Stratoudakis *et al.*, 1999). The mean weights are estimated as unweighted means. This results in a biased estimate. An appropriate weighing procedure, i.e. number of fish measured, should be explored.

EWG-11-11 further notes that the approach of discard estimation applied is generally consistent with the method used in the discard estimates published by the FAO (Kelleher, 2004). However, the group also notes that the design of a discard sampling scheme might differ depending on whether the objective was to estimate total discards, or discard for specific fleets. In the current context estimates from sampling schemes designed for the former purpose are being used for the latter purpose which again means the estimates should only be used with caution. Where this is the case, comparisons are made between the estimates of total discards used for assessment purposes, and the fleet-specific estimates used here.

With regard to age composition data, EWG-11-11 notes that the analyses presented here are intended to quantify the catch compositions of the various fleets and gears of interest. For this purpose it is the species compositions and the estimated landings and discards that are of primary importance, with the age compositions being only of secondary importance. Applying the age compositions to the national catches by fleet and gear is a complex process not least because it typically involves considerable filling-in to account for categories which do not correspond to those within national sampling schemes. It would make any future data compilation and analyses much more efficient if age composition data were not required. While there is clearly a trade-off between efficiency on one hand and providing additional information on the other, the group notes that in the current context the age composition data add little information. As a result it proposes that any future data requests and analyses should be restricted to age-aggregated information.

4.5 Treatment of CPUE data

In this report, EWG 12-16 presents CPUE by regulated gears in units of g/(kW*days). Where discard estimates are not available, the trends in LPUE (landings per unit of effort) are given in the same units. Unfortunately, discard information continues to be sparse or absent for some categories of gear in some areas. **The STECF EWG wishes to stress again that great care should be used in the interpretation of the discard and resulting catch data owing to the incomplete nature of information on discarded fish.**

EWG 12-12 notes that CPUE series are often interpreted and used as stock abundance indicator. However, EWG 12-12 emphasises that the presented trends in CPUE by fleets are subject to selective fishing strategies (area, gear, mesh size etc.) and thus maybe biased. On the other hand, CPUE derived from targeted fisheries may provide very useful information on stock abundance trends. Furthermore, it must be taken into consideration that the majority of the CPUE trends represent only overall weights in the landings (LPUE) without discards or with poorly estimated discards. Ideally, the CPUE should be based on age disaggregated abundance rather than overall weights and reflect technological creep when trends over longer periods are evaluated.

4.6 Ranking of gears on the basis of contribution to catches

Where required, EWG 12-12 presented the ranked contributions of the individual effort regulated gears to cod, plaice and sole catches for the years 2003 to 2011. There was discussion about whether the ranking should be based on a single recent year (possibly reflecting the most up to date importance of the different gear types in contributing to mortality of these species) or an average for a range of years (which allows for any aberrations in the series). A decision was taken to rank according to 2011. The data for other years are available for alternative analysis in the background spreadsheets.

The catch estimates are based on the sums of the landings and discards where available. EWG 12-12 considers the catch estimates as uncertain where fisheries lack discard estimates or they are poorly sampled. The ranking according to catch in numbers only considers derogations for which catch in numbers are available. **STECF EWG 12-12 wishes to stress again that great care should be used in the interpretation of the discard and resulting catch data owing to the incomplete nature of information on discarded fish.**

4.7 Summary of effort and landings by 'unregulated' gears

In the summary tables of effort a total value for a 'none' category is provided. This 'none' category represents

i) gear types and mesh sizes which are unregulated, i.e. non-regulated by effort in addition to

ii) unidentified mesh sizes. In the main effort summary tables, this category is not broken down into its constituent gears.

iii) the so-called derogation Swedish grid, which was encoded as IIA83b and CPart11, respectively. This gear configuration is explicitly exempted from the effort regime (R (EC) No 754/2009).

However, STECF EWG 12-12 has provided a break down of the main gears within the 'none' category in a dedicated subsection for each area. Information is given on effort (kW*days at sea) for gears such as 'beam', otter, pots, dredges etc, and for catches by these gears of key species (e.g. cod, plaice and sole). This analysis helps to identify which gears contribute significantly to landings of these species but which are not currently regulated.

With the adoption of the revised cod recovery plan towards the end of 2008 and the simplified list of regulated gears for which data are now collated, the compilation of the unregulated categories was more straightforward in 2009 onward and the data appear to be reliable.

It is important in making use of the data in this report, that the 'none' material is not counted more than once. It would be preferable to use data from the sections covering unregulated gears.

4.8 Presentation of spatial information on effective effort and landings

STECF EWG 12-12 notes that minimum geographic resolution in the available logbook information on landings and effective effort is by ICES rectangle and considers analyses to only be possible at that resolution at the present time. In a number of the smaller areas, however, this resolution is inadequate for describing any localised changes of effort distribution (for example, in the Kattegat) and finer scale is desirable. Increasing availability of VMS data should provide opportunities for improved resolution in due course. The effective effort values of certain nations were given in days fished which were then converted to trawled hours by applying a factor of 24. STECF EWG 12-12 notes that only major changes in the geographical distribution patterns should be given attention given the imprecision of the created data set. A full set of figures is available electronically but a selection of key gears is included in this report.

Figures use a common scale across years for a given gear group (e.g. TR1) but scales are unique to each category such that the colours assigned to statistical rectangles for category TR1 cannot be compared directly to those assigned for category TR2. Note that this year the scale used in the plots relates to the actual effort values (rather than the percentile method used in previous years).

4.9 Response of EWG 12-12 regarding the estimation of spatio-temporal patterns in catchability

STECF EWG 12-12 continued its considerations which started during STECF EWG 12-12 and adopted the definition of catchability (q) as the relationship between the catch rate (CPUE) and the true population size. Consequently, the unit of catchability is fish caught per fish available per effort unit and per time unit, or, in easier words, catchability can conceptually be considered as the probability of any single fish being caught (Jul-Larsen *et al*., 2003).

STECF EWG 12-12 notes that many factors are related to catchability, e.g. mainly fish abundance at a certain time in a certain area and gear efficiency (fishing power) including use of the gear and fishers' experience (Marchal *et al*., 2001). A standard solution to evaluate changes in catchability is therefore to compare catch rates from commercial and research fishing where the catchability of the research fishing is holding constant from year to year (Neis *et al*.,1999):

CPUE (fishery)/CPUE (survey) = q (fishery)/q (survey)

This catchability index has no units, as it represents the ratio of fish caught per fish available per effort unit and per time unit.

STECF EWG 12-12 identified the needs to estimate catchability coefficients and to undertake spatio-temporal analyses of them. The calculation of catchability indices for cod per ICES statistical square (rectangle) and year is derived from standardized and averaged ratios between CPUE by fishery and CPUE based on survey indices.

The estimation of catches by rectangle is derived from a raising procedure applied to landings data by stock, nation, fishery (effort regulated gear groups), year, quarter and rectangle to estimate discards and conclude on catches at this aggregation level. National landings by stock, fishery, year, quarter and rectangle were raised by average national discards rates obtained by stock, fishery, year and quarter without rectangle:

$$C_{\text{stock, nation, fishery, year, rectangle}} = \Sigma \left(L_{\text{stock, nation, fishery, year, rectangle}} / (1 - DR_{\text{stock, nation, fishery, year}}) \right),$$

where C denotes the catch in weight (t), L denotes the landings in weight (t), and DR denotes a specific average discard rate based on the DCF data submissions of landings and discards. Where the discard rate is unknown, landings figures were accepted as a best estimate of catches.

Average national commercial catch rates by stock, fishery, year and rectangle were then estimated from

$$CPUE_{stock, nation, fishery, year, rectangle} = C_{stock, nation, fishery, year, rectangle} / E_{stock, nation, fishery, year, rectangle},$$

where CPUE denotes the catch rates, C the estimated catch in weight (t) and E the fishing effort in units of fished hours.

The catchability index CA per stock, year and rectangle is then derived from the ratio between the averaged commercial CPUE values by stock, nation, fishery, year and rectangle, each of them divided by the CPUE from the respective average scientific survey CPUE in units of weight (kg). Both catch rate estimates, the commercial and the scientific ones, were made subject to log transformation in order to reduce the high variation between years and rectangles.

$$CA_{stock, year, rectangle} = \Sigma_n (\ln (1+CPUE_{stock, nation, fishery, year, rectangle}) / \ln(1+CPUE_{stock, survey, year, rectangle})) / n,$$

where n is the number of nation-fleet combinations. STECF EWG 12-12 has performed and presents spatio-temporal analyses of cod catchability for the Baltic Sea (areas A and B for the Eastern and Western cod stocks combined) and for the cod stock of the Skagerrak, North Sea, 2EU and Eastern Channel in sections 5.1.15 and 5.3.15, respectively. STECF EWG 12-12 notes that the resulting patterns of catchability in these specific management areas represent case studies and do not form the basis for any management advice. However, STECF 12-12 notes that the main and consistent finding in both management areas appears to be that cod catchability is more widely and evenly distributed compared with spatio-temporal patterns of fishing operations.

4.10 Required improvements of DCF data calls to support fishing effort regime evaluations

4.10.1 Species list given in Appendix 7 of the 2012 DCF fishing effort data call

STECF EWG 12-12 reviewed the species list given in Appendix 7 of the 2012 DCF fishing effort data call and notes that the DCF data call in 2012 to support fishing effort regime evaluations covers a long list of 122 species in Appendix 7, for which specific catch parameters are requested. EWG notes that some of the species are irrelevant and that the long list of species is exclusive of some relevant species regarding the Terms of Reference, which ask for the evaluation of the entire catch composition of defined fisheries. EWG 12-12 notes that this specific ToR regarding the quantification of the trends in the entire catch composition by fisheries is explicitly exhaustive, and any modification towards a limitation is regarded a significant relief to the implied workload for data extraction, compilation and evaluation at all levels from the data providers to the end users. However, STECF EWG 12-12 notes that the detailed resulting tables compiled under the DCF and providing fisheries specific information as digital appendixes to its reports are of increasing interest to many other scientific and management bodies.

As an approach to more precisely define the ToRs and the responses to them, STECF EWG 12-12 created a species lists in accordance to various major European fisheries regulations, i.e. species listed in the annual TAC and Quota regulations, defined deep sea species, pursuant to the DCF etc. Finally this approach increased the number of species to 311, for which quantitative information might be required in terms of potential contributions to catches of commercial fisheries operating in the maritime regions other than the Mediterranean and the Black Seas. The list of identified species is given as Appendix to this report and can be downloaded for the working group's web page: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12

STECF EWG 12-12 also discussed the potential pros and cons regarding a revision of the Appendix 7 towards a complete call for catch data of all species recorded in the national data bases. STECF EWG 12-12 has not concluded the implications of changes in the species list and therefore is unable to provide specific advice/

4.10.2 Additional parameter "fishing activity" to be considered

STECF EWG 12-12 notes that the DCF data call in 2012 to support fishing effort regime evaluations is not consistent with the ToR and thus its inability to fully address the tasks for the Baltic regime, i.e. to assess the fishing activity measured in days absent from port (according to definitions adopted in R(EC) No 1098/2007). STECF EWG 12-12 notes that the DCF data call in 2012 does require data submissions of fishing activity in units of day absent from port by fishery (metier) in Table B but that this implies overestimation of days absent from port in cases where individual boats use more than one regulated gear during a fishing day. In order to avoid such a potential overestimation of days at sea, STECF EWG 12-12 recommends that the Effort Data Call for Table D in 2013 shall be amended. A specific fishing effort parameter called fishing activity in units of days at sea shall be added. The additional parameter shall be specific to country, year, vessel-length, area (A or B) and gear (regulated=REGGEAR or un-regulated=NONGEAR). STECF EWG would then be in position to fully address the ToR to estimate the uptake of maximum allowed fishing effort.

4.10.3 Additional special condition to be considered for the Western Channel

STECF EWG 12-12 notes that FDF has been implemented for sole in the Western Channel in 2012 (Council Reg N 43/2012, EU TAC and Quota regulation for 2012). STECF EWG 12-12 recommends to DG MARE that, if catches and effort und FDF in the Western Channel shall be analysed in 2013, the respective DCF fishing effort data call shall consider an additional specific code in Appendix 6 called "FDFIIC".

4.11 Response of EWG 12-12 regarding the additional ToRs

STECF EWG 12-12 notes that the additional ToRs are covering two major elements. The first element requests an evaluation of a particular method as proposed by STECF 12-13 EWG 12-07 to move from an F based approach to a catch based approach in Article 13 of the cod plan, which is interpreted as a proposal to change Article 13.

STECF EWG 12-12 notes that Article 13 does require and give the MS the competence to monitor and to manage the partial Fs of the regulated gear groups in year to justify buying back fishing effort, in particular related to paragraph 13.2.c.

STECF EWG 12-12 notes that Article 13 does not define how the monitoring and management of partial F shall be implemented, leaving the implementation in the competence of the MS. STECF EWG 12-12 notes that the implementation could be done through fisheries specific allocation of landings and discards as proposed by the method, but also through complementing allocations of fishing effort. Even technical measures are not excluded explicitly. The proposed method still may be seen as one example of how a MS might approach the task to monitor and manage the partial Fs in order to achieve its partial F target while there might be other solutions, given that there might be different national regulatory frameworks to allocate national fishing opportunities.

STECF EWG 12-12 notes that the consistent allocation of catch allocation by fisheries requires an analytical short term forecast. Consequently, the proposed method cannot be applied if such analytical forecast of catch and stock sizes is not available. Furthermore, the proposal is to apply partial Fs of the fisheries to derive catch allocations for these fisheries for the TAC year. Catch allocations would then represent stable relative proportions (relative stability). As such, the proposal does not cover the situations where a MS wishes to deviate from stable shares of catch possibilities but instead wants to promote one or more fisheries relative to others.

STECF EWG 12-12 notes that the proposed method will work if duly implemented. However, the method implies certain caveats, the major one being a lack of mixed fisheries rules (over quota discards are not limiting the fishing operations yet). The effect to control a target F would be undermined by over quota discards if the fishing operations are not terminated once a catch allocation has been exhausted. STECF EWG 12-12 notes that discard information must be correctly allocated and controlled, which is unlikely to be achievable given the uncertainty related to discard estimates. Also, it appears unlikely that age disaggregated landings and discards

are available in year due to logistic reasons and that thus an approximation of fisheries specific landings and discards allocations in weight may be considered. Other caveats, e.g. relative stability of quota shares, changes in allocations due to quota swaps, uncertainty in stock parameter estimations (Fs and related projected stock size, landings and discards) can be overcome through definitions like: take the starting values of the TAC year to be managed, in this case 2013.

The second element of the additional ToR deals with catch options for Kattegat and the Irish Sea cod stocks in 2013. Given the information available, STECF EWG 12-12 is unable to provide catch options in addition to the provisions of the cod plan and its recent amendments. STECF EWG 12-12 notes that in the specific case of the Irish Sea cod, the consequences of adaptations in landings and effort cannot be quantified, so measures may be interpreted as precautionary. STECF EWG 12-12 advises also to evaluate the implementation of improved cod selectivity in TR2 fisheries operating in the Irish Sea through existing technical options.

STECF EWG 12-12 notes that in the specific case of the Kattegat cod stock, there is a good correlation between major fisheries effort and harvest rates (TR2 of DNK and SWE), which indicates that further decreases in effort of regulated gears may have the effect to decrease fishing mortality. However, STECF EWG 12-12 notes that the effects of effort reductions of passive gears are difficult to estimate.

5 EVALUATIONS BY FISHING EFFORT MANAGEMENT REGIME

5.1 Baltic Sea effort regime evaluation in the context of the management plan for Baltic cod (Council Regulation (EC) No 1098/2007)

5.1.1 ToR 1.a Fishing effort in kWdays and GTdays by area, Member State and fisheries

Table 5.1.1.1 lists the trends in effort for gear categories defined in the cod management plan Council Regulation (EC) 1098/2007 in kW*days at sea for the whole Baltic. Table 5.1.1.2 lists the trends in effort by gear category, sub-area and member state. Table 5.1.1.3 lists effort trends by gear category and sub-area. Figures 5.1.1.1 – 5.1.1.6 show effort trends in regulated and unregulated gear categories by sub-areas.

In accordance with the TOR respective tables by gear-category, sub-area and member states in GT*days at sea (GT gross tonnage), activity (in days absent from port) and capacity (number of vessels) are available on the web site of the EWG. STECF EWG 1206 emphasises that the days at sea and number of vessels need to be interpreted with care and cannot be added across gear categories as the individual vessels may have been engaged in more than one of the defined fleets and thus could be multiple counted.

There have been marked reductions in effort measured in kW-days in 2004-2011both for regulated gears in accordance with Council Regulation (EC) 1097/2007 and unregulated gears. The total effort deployed in the Baltic in 2011 was 0.1% lower compared to 2004 and 6% higher compared with 2010 (Table 5.1.1.1).

A clear reduction in total effort could be observed for sub-area A. Figures 5.1.1.2 and 5.1.1.3 display the trends in area B. Only in area C the effort deployed with unregulated gears fluctuated with a slight decreasing trend (Figure 5.1.1.5). Since the majority of cod catches stem from areas A and B (see section below), the slight increase in total effort can be observed both for regulated and unregulated gears. Decrease in total effort in areas A and B most likely decreased the fishing pressure on Baltic cod.

Table 5.1.1.3 describes the relative annual effort dynamics in Baltic cod r-GILL and r-_OTTER fisheries in 2004-2011. The total effort showed a consistent decreasing trend in area A. A decrease could be observed also in area B, except for the 2010 and 2011 which resulted from effort deployed by r-OTTER equipped with T90. The effort dynamics in area C did not show any particular trend.

The effort dynamics in Sub-division 28.2 increased in 2011after the steady decrease due to increased r-OTTER effort (Figure 5.1.1.8)This increase, however, should be taken with caution since the information on r-OTTER may have been partly generated on the basis of effort deployed by other gears while choosing predominant fishing gear during the year for the vessels involved.

The decrease in total effort for the main gears catching cod in areas A and B (r-Otter, see section below) was obvious for all Member States (Table 5.1.1.2). When combining specon BACOMA and none, the reductions were most pronounced for Denmark (-66%) and Poland (-68%) in area A and most pronounced for Poland (-79%) and Germany (-49%) in area B. In contrast, the effort for r-Gill (the second most important gear, see section below) increased for Denmark and Germany in Area A (by 8% and 22% respectively) At the same time combined effort decreased for Latvia (-96%) and for Poland (49%). This indicates a certain shift between métiers. In area B the effort decreased also for r-Gill substantially for all member states (-78% and 76% for Poland and for Latvia respectively). The sharp increase of pelagic effort in 2004 – 2005, described in the Figure 5.1.1.5 can be explained by the inclusion of Estonian data from 2005-2010 which contained substantial pelagic effort.

In sub-division 28.2. only Latvia reported the information on effort deployed in r-GILL fishery. The effort has decreased over the period of 2004.2011 by 54% and for r-OTTER by 58% (Figures 5.1.1.7 - 5.1.1.8).

For area C the full time series of information for r-OTTER was not available to the group. The effort for r-_GILL decreased by 36% (Sweden). The use of BACOMA-trawls increased over the years (see Figures 5.1.1.2,

5.1.1.4 and 5.1.1.6;). However, as already mentioned several Member States were not able to identify vessels fishing with BACOMA-trawls from logbook data. Therefore, the increase in the usage of BACOMA-trawls is most likely underestimated substantially and trends are highly uncertain.

Table 5.1.1.1 Trend in nominal effort (kW*days at sea) by gear categories according to Council Regulation (EC) 1098/2007, 2004-2011. An "r" in front of the gear type indicates regulated gears. Gear types without an "r" are non-regulated gears. **Data from Sweden and Poland were only available from 2003 or 2004 respectively. Relative change from 2004 to 2011.**

REG GEAR COD	SPECON	2004	2005	2006	2007	2008	2009	2010	2011	rel.change
BEAM	none		132	1090	881	27566	16298	884	884	1.00
DEM_SEINE	none	50829	31212	20892	20597	12522	5372	4811	11826	-0.77
DREDGE	none	78384	72955	97700	110931	45088	57512	75229	56203	-0.28
GILL	none	2514485	2781576	2466038	2294202	2019364	1865438	1924751	1901761	-0.24
none	none	96938	176122	205696	192219	168134	194458	127777	64672	-0.33
OTTER	none	2822656	2413377	1927192	1656416	1339785	1538768	1241674	1094607	-0.61
PEL_SEINE	none	2499				3528	16467	13674	12645	4.06
PEL_TRAWL	none	14282170	57258796	42368403	37461943	41572322	38799075	28289930	24865258	0.74
POTS	none	1519123	1616487	1346062	1211896	1209974	894295	1047462	922060	-0.39
r-BEAM	BACOMA					3867				0.00
	none							129		0.00
r-DEM_SEINE	BACOMA			35178	46741	46182	62042	36621	52423	1.00
	none	403303	276935	262342	242811	181854	118870	92271	62908	-0.84
r-GILL	none	9845133	8661465	7761426	6637435	5995191	4830867	4165995	3746400	-0.62
r-LONGLINE	none	1441250	1761808	1696090	1007775	732603	905232	819419	792979	-0.45
r-OTTER	BACOMA	7988730	6623938	8680449	6533232	5485697	4054010	4218632	4574495	-0.43
	none	5994718	6118754	3559359	2548784	2434264	2125267	2130595	2265651	-0.62
	T90						9536	160701	276747	1.00
r-PEL_TRAWL	BACOMA	1185898	571002	1684466	1635610	854557	346595	199507	955700	-0.19
	none	249065	219558	122741	37349	3841	27748	13555	29491	-0.88
r-TRAMMEL	none	237643	474318	432987	502243	541596	605039	466697	418420	0.76
TRAMMEL	none	20495	31581	32540	31788	25999	11012	11965	10883	-0.47
Grand Total		48733319	89090016	72700651	62172853	62703934	56483901	45042279	42116013	-0.14

Table 5.1.1.2. Trend in nominal effort (kW*days at sea) by regulated gear categories and sub-area 2003-2011. An "r" in front of the gear type indicates regulated gears in accordance with Council Regulation (EC) 1098/2007. Data from Sweden and Poland were only available from 2003 and 2004 respectively.

ANNEX	REG AREA COD	REG GEAR COD	2003	2004	2005	2006	2007	2008	2009	2010	2011
Bal	28.2	r-DEM_SEINE	1534	804					4091	3967	
Bal	28.2	r-GILL	128458	38171	62083	52887	52229	16129	15303	23211	17613
Bal	28.2	r-OTTER	44642	88489	84119	64123	60310	34048	19735	4865	36969
Bal	28.2	r-PEL_TRAWL	882		6850	5500	1100		2860		
sum	28.2		175516	127464	153052	122510	113639	50177	41989	32043	54582
Bal	A	r-BEAM	442					3867		129	
Bal	A	r-DEM_SEINE	367803	401601	268305	275983	276172	220254	161197	101984	68761
Bal	A	r-GILL	2167947	2210506	3653135	3467058	3183757	3026786	2445924	2106754	1929084
Bal	A	r-LONGLINE	191483	236379	581682	411697	302100	166180	209075	163111	177380
Bal	A	r-OTTER	5561992	5074850	5365949	4152545	4377571	3548982	2851999	2394024	2448090
Bal	A	r-PEL_TRAWL	36123	22733	72345	52777	40983	6994	2744	12155	8247
Bal	A	r-TRAMMEL	248170	227410	467483	424258	487380	530740	587949	462938	416319
sum	A		8573960	8173479	10408899	8784318	8667963	7503803	6258888	5241095	5047881
Bal	B	r-DEM_SEINE	729	1702	8630	21537	13380	7782	19715	26908	46570
Bal	B	r-GILL	3485435	7544106	4914900	4198363	3379065	2902673	2322045	1985715	1758949
Bal	B	r-LONGLINE	539794	1204871	1180126	1284393	705675	566343	696157	656308	615599
Bal	B	r-OTTER	3957948	8908598	7372711	8081809	4701617	4364577	3336814	4115904	4668803
Bal	B	r-PEL_TRAWL	68361	1412230	718215	1754430	1631976	851404	371599	200907	976944
Bal	B	r-TRAMMEL	12204	10233	6835	8464	14863	10856	17090	3759	2101
Bal	C	r-GILL	88826	90521	93430	96005	74613	65732	62898	73526	58367
Bal	C	r-LONGLINE	992					80		0	
Bal	C	r-OTTER			4032	5454	2828	6402			
Bal	C	r-TRAMMEL				265					
sum	B-C		8154289	19172261	14298879	15450720	10524017	8775849	6826318	7063027	8127333

Table 5.1.1.3. Relative annual effort dynamics in Baltic cod r-GILL and r- OTTER fisheries in 2004-2011.

REG GEAR COD	REG AREA COD	SPECON	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011
r-GILL	28.2	none	0.63	-0.15	-0.01	-0.69	-0.05	0.52	-0.24
r-GILL	A	none	0.65	-0.05	-0.08	-0.05	-0.19	-0.14	-0.08
r-GILL	B	none	-0.35	-0.15	-0.20	-0.14	-0.20	-0.14	-0.11
r-GILL	C	none	0.03	0.03	-0.22	-0.12	-0.04	0.17	-0.21
r-OTTER	28.2	BACOMA	-0.05	-0.24	-0.06	-0.44	-0.42	-0.75	6.60
r-OTTER	A	BACOMA	0.58	2.49	0.23	-0.27	-0.25	-0.14	0.11
r-OTTER	A	none	0.02	-0.56	-0.12	-0.08	-0.14	-0.19	-0.08
r-OTTER	A	T90	0.00	0.00	0.00	0.00	0.00	1.00	0.83
r-OTTER	B	BACOMA	-0.21	0.10	-0.39	-0.09	-0.27	0.14	0.07
r-OTTER	B	none	0.03	0.08	-0.53	0.05	-0.09	0.45	0.25
r-OTTER	B	T90	0.00	0.00	0.00	0.00	1.00	13.51	0.70
r-OTTER	C	BACOMA	0.00	0.00	0.00	1.00	-1.00	0.00	0.00
r-OTTER	C	none	1.00	0.35	-0.48	0.50	-1.00	0.00	0.00
All regulated gears 28.2			0.15	-0.20	-0.04	-0.55	-0.30	-0.20	0.94
All regulated gears A			0.24	-0.16	-0.01	-0.13	-0.19	-0.15	-0.03
All regulated gears B			-0.25	0.00	-0.34	-0.10	-0.22	0.08	0.05
All regulated gears C			0.08	0.04	-0.24	-0.07	-0.13	0.17	-0.21

Table 5.1.1.4 Trend in nominal effort (kW*days at sea) by regulated gear categories according to Council Regulation (EC) 1098/2007, sub-area and Member State for 2004-2011. Data from Estonia were only available from 2005.

ANNEX	REG AREA COD	REG GEAR COD	COUNTRY	2003	2004	2005	2006	2007	2008	2009	2010	2011
Bal	28.2	r-DEM_SEINE	LVA	1534	804					4091	3967	
Bal	28.2	r-GILL	EST				166					
Bal	28.2	r-GILL	LVA	128458	38171	62083	52721	52229	16129	15303	23211	17613
Bal	28.2	r-OTTER	EST				221	221				
Bal	28.2	r-OTTER	LVA	44642	88489	84119	63902	60089	34048	19735	4865	36969
Bal	28.2	r-PEL_TRAWL	LVA	882		6850	5500	1100		2860		
Bal	A	r-BEAM	DEU	442					3867			
Bal	A	r-BEAM	DNK								129	
Bal	A	r-DEM_SEINE	DEU		7398	1912	23422	37741	38400	42327	9713	13789
Bal	A	r-DEM_SEINE	DNK	367803	394203	266393	252561	238431	181854	118870	92271	54972
Bal	A	r-GILL	DEU	786357	662527	1135980	1449940	1457215	1247682	932027	893907	809150
Bal	A	r-GILL	DNK	571865	548685	1292689	996895	805567	873961	816545	673772	594059
Bal	A	r-GILL	EST			40887	57436	19041	39051	41349		
Bal	A	r-GILL	LTU			19111	32901					
Bal	A	r-GILL	LVA	79148	142491	171002	161456	30116	12676	3528	11604	6174
Bal	A	r-GILL	POL		236261	331555	199045	325354	228173	135263	84558	80203
Bal	A	r-GILL	SWE	730577	620542	661911	569385	546464	625243	517212	442913	439498
Bal	A	r-LONGLINE	DEU	78859	80543	122727	119348	100892	97335	122409	74286	62880
Bal	A	r-LONGLINE	DNK	104894	91833	190411	205287	128411	32694	36906	44680	47835
Bal	A	r-LONGLINE	LTU			12533	0					
Bal	A	r-LONGLINE	POL		17962	143615	46306	53736	21615	6391	4502	6288
Bal	A	r-LONGLINE	SWE	7730	46041	112396	40756	19061	14536	43369	39643	60377
Bal	A	r-OTTER	DEU	1906314	1753928	1686831	1481387	1491775	1207722	1028646	933844	964057
Bal	A	r-OTTER	DNK	3376295	2927587	3073583	2063167	1822436	1680846	1460281	1177622	1080463
Bal	A	r-OTTER	EST			4199					4248	
Bal	A	r-OTTER	LTU			57602	84342					
Bal	A	r-OTTER	LVA	880		17632		18488			7920	
Bal	A	r-OTTER	POL		172618	310416	185144	618979	315079	172795	114560	96578
Bal	A	r-OTTER	SWE	278503	220717	215686	338505	425893	345335	190277	155830	306992
Bal	A	r-PEL_TRAWL	DEU	14111	3975	17039	20699	30856	3443		3740	5756
Bal	A	r-PEL_TRAWL	DNK	22012	13656	18809	26622	6246	2831	2744	8255	561
Bal	A	r-PEL_TRAWL	EST			662		1269				
Bal	A	r-PEL_TRAWL	LTU			16799	0					
Bal	A	r-PEL_TRAWL	POL		2220	16612	1258	2612			160	
Bal	A	r-PEL_TRAWL	SWE		2882	2424	4198		720			1930
Bal	A	r-TRAMMEL	DEU	10392	21308	40549	67494	132416	128657	134669	77750	106349
Bal	A	r-TRAMMEL	DNK	203360	176945	368235	311504	309804	351748	358269	323131	271262
Bal	A	r-TRAMMEL	SWE	34418	29157	58699	45260	45160	50335	95011	62057	38708
Bal	B	r-DEM_SEINE	DEU		822		11756	9000	7782	19715	26908	38601
Bal	B	r-DEM_SEINE	DNK	729	880	8630	9781	4380				7936
Bal	B	r-DEM_SEINE	POL									33
Bal	B	r-GILL	DEU	11696	8290	43704	14527	11824	5048	6594		
Bal	B	r-GILL	DNK	255291	239932	243786	254043	189372	195012	172298	136131	128849
Bal	B	r-GILL	EST			287824	253368	128268	40036	31107		
Bal	B	r-GILL	LTU			93187	55397	90686	128949	107267	104170	78123
Bal	B	r-GILL	LVA	1397564	1471236	701180	596996	568781	539579	401856	361015	350477
Bal	B	r-GILL	POL		4339027	2361250	1992875	1556930	1079645	791231	788566	682079
Bal	B	r-GILL	SWE	1820884	1485621	1183969	1031157	833204	914404	811692	595833	519421
Bal	B	r-LONGLINE	DEU	10248	11771	15007	9881	11920	17580	12580	6600	2420
Bal	B	r-LONGLINE	DNK	212604	107249	127573	154932	85371	45181	63747	77366	75291
Bal	B	r-LONGLINE	LTU			264	59543	35332	34991	6664	3956	5514
Bal	B	r-LONGLINE	POL		712715	691955	738832	410561	270046	412292	391897	324214
Bal	B	r-LONGLINE	SWE	316942	373136	345327	321205	162491	198545	200874	176489	208160
Bal	B	r-OTTER	DEU	334236	211999	280977	163096	80177	191198	220844	276398	108001
Bal	B	r-OTTER	DNK	1095043	774695	791940	1255868	568490	640633	610697	776245	1067163
Bal	B	r-OTTER	EST			94896	5729	9503			96642	179832
Bal	B	r-OTTER	LTU			342503	192759	170844	382050	286887	332848	398109
Bal	B	r-OTTER	LVA	458330	322019	242532	350925	186093	229860	198632	218426	473943
Bal	B	r-OTTER	POL		5657875	3902889	4457610	2534977	1715576	1018609	1245924	1021206
Bal	B	r-OTTER	SWE	2070339	1942010	1716974	1655822	1151533	1205260	1001145	1169421	1420549
Bal	B	r-PEL_TRAWL	DEU		182107	143688	141492	70379	16691	36135	61303	128870
Bal	B	r-PEL_TRAWL	DNK	63296	49327	40022	95679	31103	1010	4030	3536	5080
Bal	B	r-PEL_TRAWL	EST			214426	355398	702922	703021	219177	114680	714754
Bal	B	r-PEL_TRAWL	LTU			1100	89918	85447	61407	20974	1764	4420
Bal	B	r-PEL_TRAWL	LVA	5065	114489	4122	29965	122803	10521	14473		
Bal	B	r-PEL_TRAWL	POL		921668	193724	628134	440888	21895	36317	3424	24022
Bal	B	r-PEL_TRAWL	SWE		144639	121133	413844	178434	36859	40493	16200	99798
Bal	B	r-TRAMMEL	DNK	3108	2064	5598	7550	12631	5910	15546	3693	1185
Bal	B	r-TRAMMEL	SWE	9096	8169	1237	914	2232	4946	1544	66	916
Bal	C	r-GILL	EST			166	166					
Bal	C	r-GILL	SWE	88826	90521	93264	95839	74613	65732	62898	73526	58367
Bal	C	r-LONGLINE	SWE	992					80		0	
Bal	C	r-OTTER	EST			3628	5454	2828	4242			
Bal	C	r-OTTER	SWE			404			2160			
Bal	C	r-TRAMMEL	SWE				265					

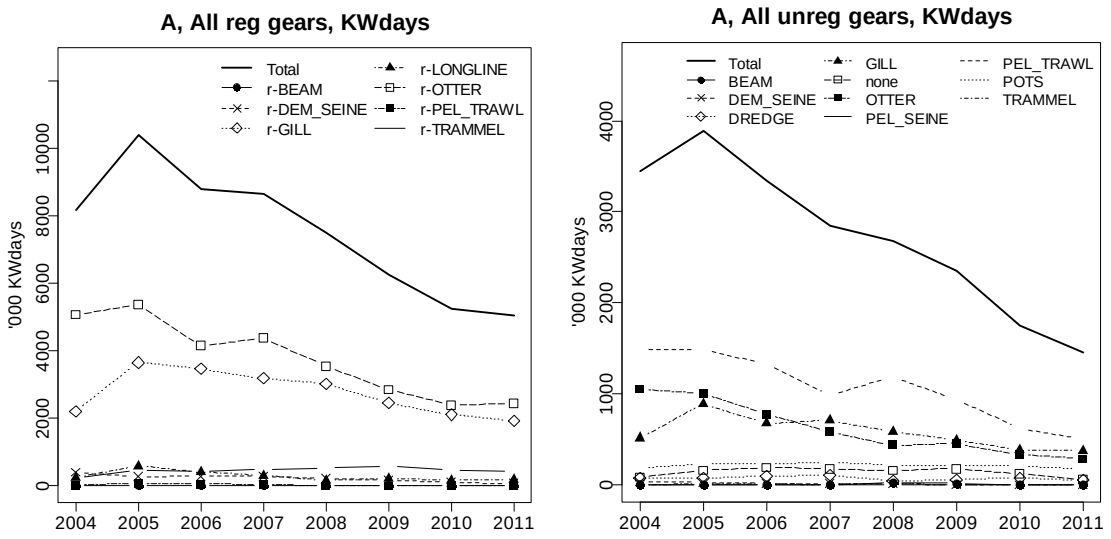


Figure 5.1.1.1. Area A Baltic: Trend in nominal effort by gear types 2004-2011 (Kw *days at sea). Left panel: Regulated gears. Right panel: Unregulated gears. Note that data from Poland, Latvia and Lithuania are only available from 2004 and from Estonian from 2005 onwards. Therefore, effort trends are shown from 2004 to 2011. No data from Finland.

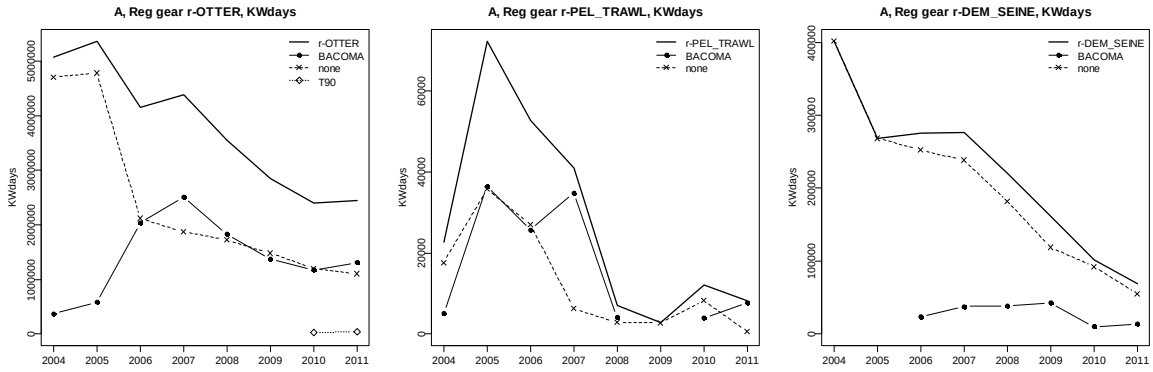


Figure 5.1.1.2. Area A Baltic: Trend in nominal by special conditions, 2004-2011 (kW *days at sea). Note that data from Poland, Latvia and Lithuania are only available from 2004 and from Estonian from 2005 onwards Therefore, effort trends are shown from 2004 to 2011. No data from Finland.

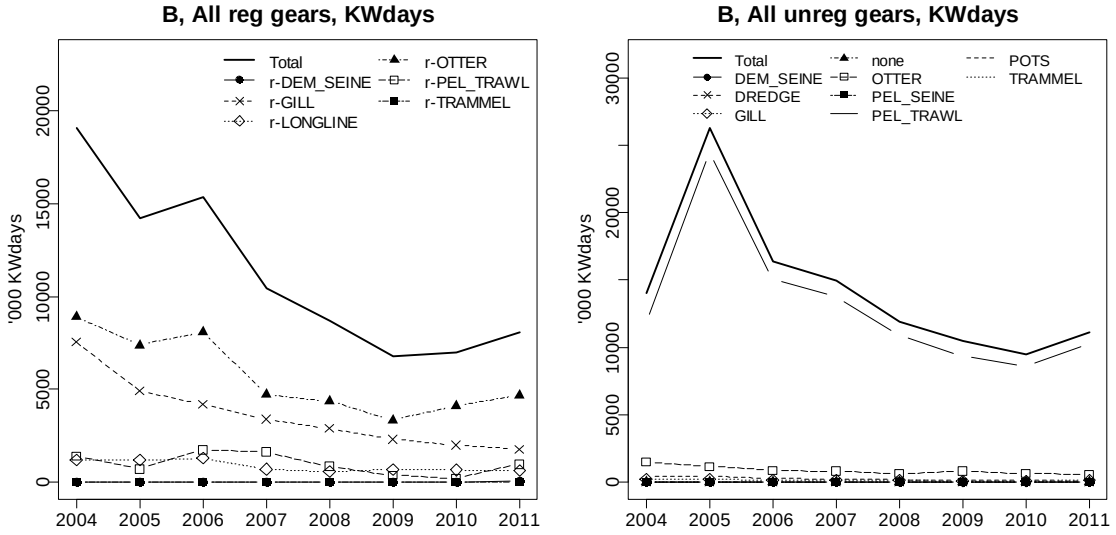


Figure 5.1.1.3. Area B Baltic: Trend in nominal effort by gear types 2004-2011 (kW *days at sea). Left: Regulated gears. Right: Unregulated gears. Note that data from Poland, Latvia and Lithuania are only available from 2004 onwards. Therefore, effort trends are shown from 2004 to 2011. Additionally, Estonian data set of 2005-2011 was included in database. No data from Finland.

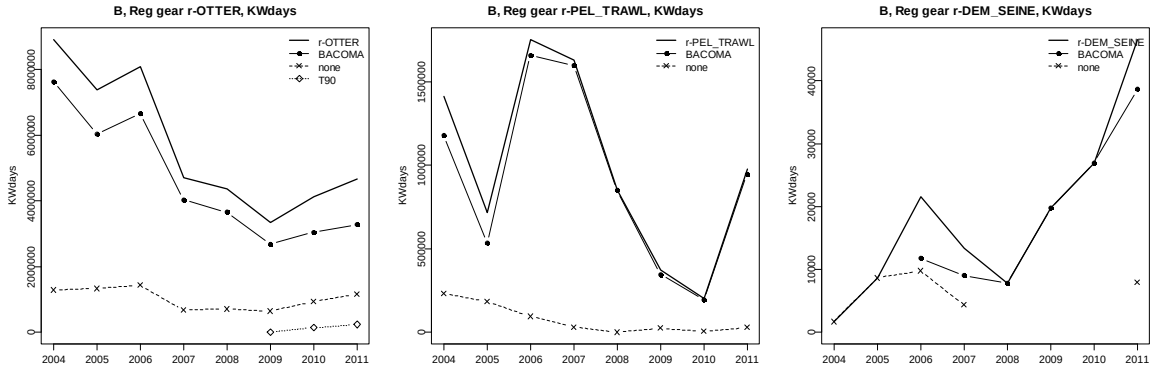


Figure 5.1.1.4. Area B Baltic: Trend in nominal effort by special conditions, 2004-2011 kW *days at sea). Note that data from Poland, Latvia and Lithuania are only available from 2004 and from Estonian from 2005 onwards. Therefore, effort trends are shown from 2004 to 2011. No data from Finland

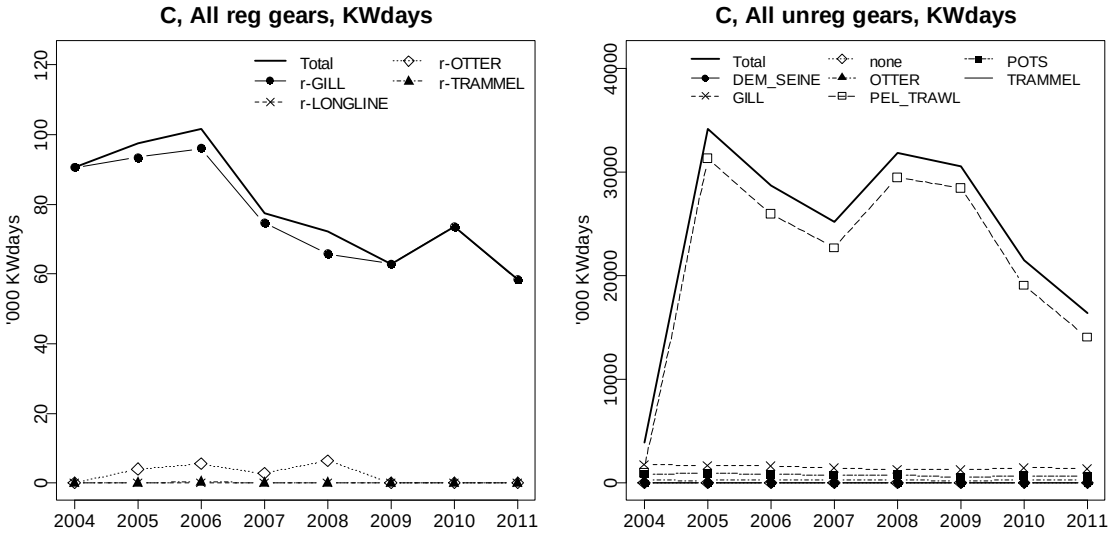


Figure 5.1.1.5. Area C Baltic: Trend in nominal effort by gear types 2004-2011 (kW *days at sea). Left: Regulated gears. Right: Unregulated gears. Note that data from Poland, Latvia and Lithuania are only available from 2004 onwards. Therefore, effort trends are shown from 2004 to 2011. Additionally, Estonian data from 2005-2011 (including substantial pelagic effort) was included. No data from Finland.

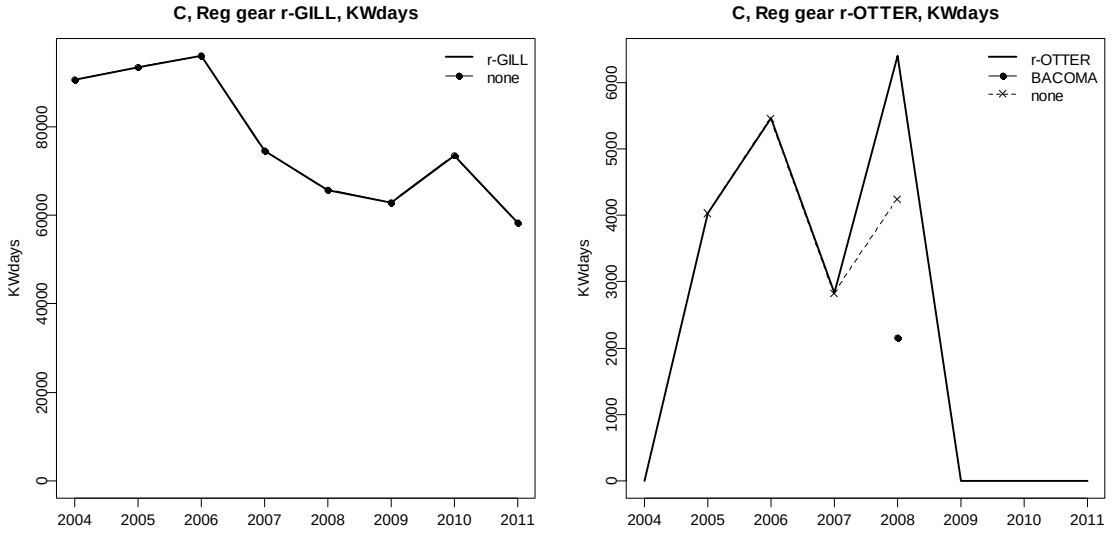


Figure 5.1.1.6. Area C Baltic: Trend in nominal effort by special conditions, 2004-2011 (kw *days at sea). Note that data from Poland, Latvia and Lithuania are only available from 2004 and from Estonian from 2005 onwards Therefore, effort trends are shown from 2004 to 2011. No data from Finland

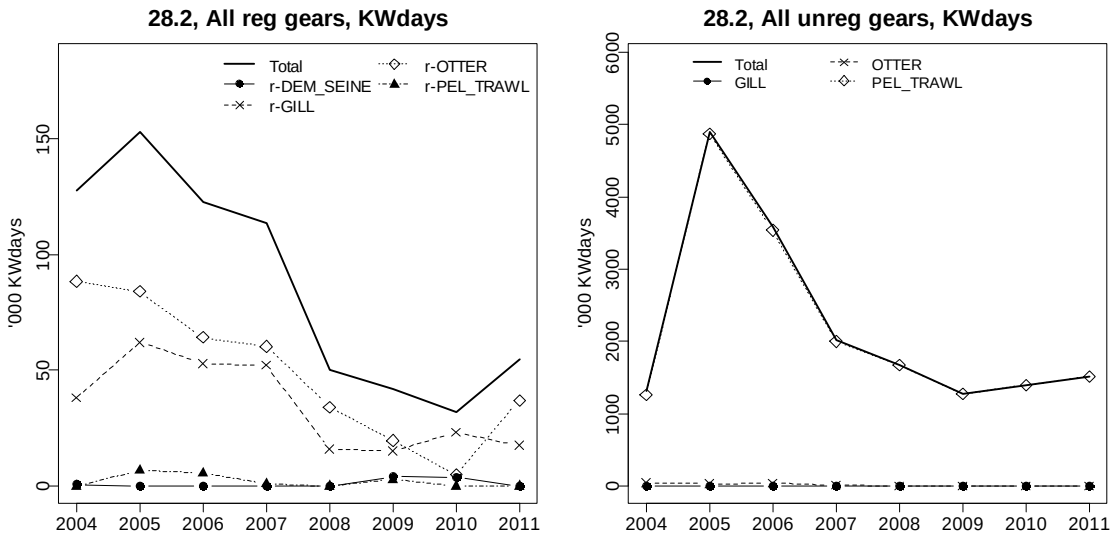


Figure 5.1.1.7. Area 28.2. Baltic: Trend in nominal effort by gear types 2004-2011(kW *days at sea). Left: Regulated gears. Right: Unregulated gears. Note that data from Poland, Latvia and Lithuania are only available from 2004 and from Estonian from 2005 onwards. Therefore, effort trends are shown from 2004 to 2011. No data from Finland

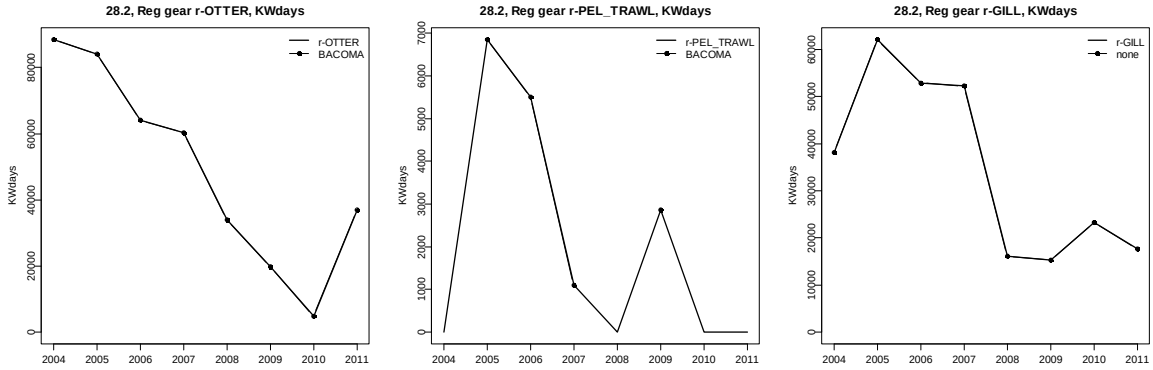


Figure 5.1.1.8. Area 28.2. Baltic: Trend in nominal effort by special conditions, 2004-2011 kW *days at sea). Note that data from Poland, Latvia and Lithuania are only available from 2004 and from Estonian from 2005 onwards. Therefore, effort trends are shown from 2004 to 2011. No data from Finland.

5.1.2 ToR 1.b Fishing activity by area, fisheries and Member State

Table 5.1.2.1 lists the estimated days at sea by area, regulated gear and Member State. The results show a clear decreasing trend over the areas A and B from total of 126 000 days at sea in 2004 to 76 000 days in 2011. The total decrease in fishing activity has been mostly driven by the respective trend in area B only (from 78 000 to 39 000 days. At the same time the fishing activity in area A has been fluctuating between 28 000 and 56 000 days without clear trend. The figures given in the table should be, however, taken cautiously, since the multi-fold counting may have been taken place in the cases where certain vessels may have deployed more than one specific regulated gear.

In order to avoid such a potential overestimation of days at sea, STECF EWG 12-12 recommends that the next Effort Data Call the Table D in 2013 shall be amended. A specific fishing effort parameter in units called fishing activity in units of days at sea shall be added. The additional parameter shall be specific by country, year, vessel-length, area (A or B) and gear (regulated=REGGEAR or un-regulated NONGEAR). STECF EWG would then be in position to fully address the ToR to estimate the uptake of maximum allowed fishing effort.

Table 5.1.2.1 Days at sea by area, regulated gear and Member State.

Days at sea

REG AREA COD	REG GEAR COD	COUNTRY	2004	2005	2006	2007	2008	2009	2010	2011
A	r-GILL	DEU	7219	14201	22002	21213	17262	13418	11971	11310
		DNK					12001	10655	9228	7920
		EST		115	124	68	125	151		
		LTU								
		LVA	811	1044	997	145	47	12	48	21
		POL	3908	4173	2656	4062	2912	1914	1129	1110
		SWE	5329	5743	5015	4958	5547	4643	4057	3944
	r-OTTER	DEU	9467	8771	8125	7952	6727	5677	5239	5317
		DNK					9316	8507	7180	6110
		EST		7					6	
		LTU								
		LVA		76		84			36	
		POL	748	1361	589	2374	1323	940	717	733
		SWE	705	589	807	960	728	415	331	691
B	r-GILL	DEU	50	361	82	58	24	50		
		DNK					2362	2078	1645	1674
		EST		462	458	308	140	101		
		LTU						944	821	635
		LVA	9376	4413	3501	3306	3024	2447	2213	2140
		POL	40916	25446	21835	17523	13910	11214	10733	10158
		SWE	15348	12125	10484	9220	10766	9395	6868	6188
	r-OTTER	DEU	644	996	625	282	775	1078	1365	485
		DNK					2625	2694	3120	4133
		EST		100	26	43			171	281
		LTU						1300	1508	1812
		LVA	1421	1054	1546	797	1012	806	892	2005
		POL	24902	15831	17179	10038	7031	4601	5562	5583
		SWE	5079	4262	4041	2640	2847	2539	2810	3427
Grand Total			125923	101130	100092	86031	100504	85579	77650	75677

5.1.3 ToR 1.b Catches (landings and discards) of cod in weight and numbers at age by fisheries

The following tables list the landings and discards for cod by gear category, sub-area and Member State (Table 5.1.3.1) as well as aggregated over Member States (Table 5.1.3.2). Discard rates per year, gear category, sub-area and country can be found in Table 5.1.3.3 and aggregated over Member States in Table 5.1.3.2. In addition in Table 5.1.3.4 discard rates by sub-areas, gear category and years are presented, while in Table 5.1.3.5 discard and landing data by age is listed. Figures on landings and discards for the most important gear categories catching cod were also provided (Figure 5.1.3.1).

The overall problem highlighted in this section is the poor quality of discard data as already outlined. In addition, data from Poland are only available from 2004 and for Estonia, from 2005 onwards. Therefore, for the analyses of catch and discard trends, year 2003 had to be excluded.

The overall landings of Baltic cod in 2011 were 7% lower compared to 2004 (ICES, 2011) and 5% higher than in 2010. Discards fluctuate around low values without trend over years. Despite the quality of discard estimates has essentially improved since the introduction of EU Data Collection Programs the estimates should still be taken with caution.

Most cod landings stem from areas A and B. Area C only plays a very limited role according to available data, on cod present distribution pattern in the Baltic (Landings 2011 A+B = 50368 tonnes; Landings 2010 C = 69 tonnes (<1.4%)).

Discard rates for cod are highest for area B followed by area A (Table 5.1.3.1). For area C only very minor discard rate has been observed in gillnet fishery. This probably reflects the distribution of the cod stock. Discard rates were higher for pelagic trawls (up to 22 % in sub-area A in 2011) but remained generally <16% from 2005 onwards in most cases. The discards from gillnet fishery generally remained below 10%. Discard rates between Member States are of comparable magnitude. Only in area B were discard rates for r-Otter significantly higher for Sweden, Germany and Poland compared to the other countries in some years. Unfortunately a comparison between BACOMA trawls and non-BACOMA trawls was not possible due to the inability to distinguish between vessels equipped with BACOMA trawls and vessels not equipped with BACOMA-trawls especially for the years before 2005.

Table 5.1.3.1 Landings (t) and discards (t) for cod in 2004-2011 by gear category, area and Member State. An "r" in front of the gear type indicates regulated gears in accordance with Council Regulation (EC) 1098/2007. Gear types without an "r" are non-regulated gears. Data from Estonia are only available from 2005 onwards

REG_AREA	REG_GEAR	SPECON	COUNTRY	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D	2009 L	2009 D	2010 L	2010 D	2011 L	2011 D
28.2	GILL	none	LVA													0	0	0	0
28.2	OTTER	none	LVA			0	0	0	0										
28.2	PEL_TRAWL	NONE	EST															0	0
28.2	PEL_TRAWL	none	LVA	17	0	9	0	9	0	13	0	5	0			1	0	3	0
28.2	r-GILL	none	LVA	74	0	151	3	90	2	102	7	39	1	39	0	37	0	36	0
28.2	r-OTTER	BACOMA	EST							1	0								
28.2	r-OTTER	BACOMA	LVA	173	0	195	0	168	0	93	0	57	0	121	0	12	0	41	0
28.2	r-PEL_TRAWL	BACOMA	LVA																
A	BEAM	none	DEU													2	0	3	0
A	DEM_SEINE	none	DNK	0	0	0	0	6	0	0	0								
A	DEM_SEINE	none	POL	0	0					0	0								
A	DREDGE	none	DNK																
A	GILL	none	DEU	0	0	22	0	21	0	17	0	4	0	1	0	3	0	0	0
A	GILL	none	DNK	56	0	258	4	122	0	119	0	20	0	12	0	7	0	7	0
A	GILL	none	POL	9	0	1	0	1	0	5	0	3	0	1	0	0	0		
A	GILL	none	SWE	0	0	1	0	0	0	1	0	0	0	1	0	1	0	2	0
A	none	none	DEU	3	0	18	0	34	0	9	0	3	0	3	0				
A	none	none	DNK	2782	0	426	0	808	0	99	0	52	0	24	0	40	0	30	0
A	none	none	SWE	1	0	23	0	7	0	35	0	15	0	6	0	17	0		
A	OTTER	none	DEU	21	0	77	0	60	0	39	0	57	0	33	0	22	34	52	0
A	OTTER	none	DNK	72	0	121	0	122	0	49	0	22	0	23	0	8	14	9	0
A	OTTER	none	POL	3	0	3	0	1	0	1	0	0	0					7	0
A	OTTER	none	SWE	1	0	0	0	1	0	0	0			0	0				
A	PEL_TRAWL	none	DEU	26	0	65	0	83	0	50	0	47	0	17	0	17	0	6	1
A	PEL_TRAWL	none	DNK	35	0	94	0	88	0	46	0	27	0	19	0	19	0	10	0
A	PEL_TRAWL	none	LVA							11	0			0	0				
A	PEL_TRAWL	none	POL	10	0	35	0	40	0	9	0	16	0	0	0	1	0	1	0
A	PEL_TRAWL	none	SWE	60	1	71	0	53	0	31	0	27	0	23	0	28	0	25	9
A	POTS	none	DEU	2	0	0	0	2	0	0	0	1	0	4	0	14	0	4	0
A	POTS	none	DNK			268	0	83	0	174	0	64	0	58	0	83	0	47	0
A	POTS	none	POL	0	0			1	0										
A	POTS	none	SWE	3	0	3	0	4	0	6	0	1	0	0	0	2	0	4	0
A	r-BEAM	BACOMA	DEU									9	0						
A	r-BEAM	none	DEU																
A	r-DEM_SEINE	BACOMA	DEU					51	0	143	0	250	0	194	0	51	0	71	0
A	r-DEM_SEINE	none	DEU	6	0	37	4												
A	r-DEM_SEINE	none	DNK	1318	81	1045	67	1339	64	1425	136	1222	2	581	9	466	7	375	13
A	r-GILL	none	DEU	624	13	1140	45	1744	0	1699	0	1534	0	874	87	1174	35	864	28
A	r-GILL	none	DNK	1444	15	2998	125	2310	0	2098	0	1865	1	1398	74	1378	33	1462	0
A	r-GILL	none	EST			60	3	102	0	52	0	132	0	194	8				
A	r-GILL	none	LVA	247	2	406	19	580	0	90	0	30	0	23	1	71	3	24	1
A	r-GILL	none	POL	316	7	449	18	436	0	884	0	641	0	266	36	168	3	225	4
A	r-GILL	none	SWE	1217	18	1151	46	1063	0	1153	0	1245	2	946	39	817	17	870	15
A	r-LONGLINE	none	DEU	24	0	59	3	32	0	20	0	20	0	13	0	32	0	27	0
A	r-LONGLINE	none	DNK	309	1	718	36	478	0	413	0	131	0	123	1	158	0	221	0
A	r-LONGLINE	none	LTU			8	0												
A	r-LONGLINE	none	POL	33	0	258	12	128	0	265	0	78	0	10	0	13	0	20	0
A	r-LONGLINE	none	SWE	113	3	204	7	100	0	54	0	58	0	157	0	107	0	167	2
A	r-OTTER	BACOMA	DEU					4944	332	4941	319	3155	231	2623	300	2556	567	3133	411
A	r-OTTER	BACOMA	EST			1	0									0	0		
A	r-OTTER	BACOMA	LVA			57	0	1	0	173	13					87	11		
A	r-OTTER	BACOMA	POL	129	13	309	0	177	13	1182	78	611	37	238	20	127	11	224	48
A	r-OTTER	BACOMA	SWE	755	40	634	2	1217	61	1525	132	1256	51	879	91	429	45	1241	542
A	r-OTTER	none	DEU	3685	320	4670	504	22	0	9	0	18	0	4	0	1	0	17	0
A	r-OTTER	none	DNK	7748	7	7273	17	6441	5	6921	9	5502	11	5353	10	4422	11	5363	0
A	r-OTTER	none	LTU			129	0	42	0										
A	r-OTTER	NONE	POL															7	0
A	r-OTTER	none	SWE													19	2		
A	r-OTTER	T90	SWE													45	4	149	65
A	r-PEL_TRAWL	BACOMA	DEU					76	0	187	0	5	0			13	0	13	3
A	r-PEL_TRAWL	BACOMA	EST			1	0			10	0								
A	r-PEL_TRAWL	BACOMA	POL			27	0	2	0	3	0								
A	r-PEL_TRAWL	BACOMA	SWE	8	0	5	0	7	0			2	0					6	2
A	r-PEL_TRAWL	none	DEU	11	0	35	0	0	0										
A	r-PEL_TRAWL	none	DNK	23	0	59	0	98	0	19	0	7	0	23	0	35	0	0	0
A	r-PEL_TRAWL	none	LTU			10	0												

Table 5.1.3.1 continued

B	DEM_SEINE	none	DNK															1	
B	DREDGE	none	DNK									6	0						
B	GILL	none	DNK	47	0	35	0	54	0	42	0	7	0	1	0	0	0		
B	GILL	NONE	LVA															0	0
B	GILL	none	POL	6	0	2	0	2	0	1	0	1	0	2	0	1	0	13	0
B	GILL	none	SWE			0	0	0	0	0	0	0	0	0	0	0	0	0	0
B	none	none	DNK	1057	0	41	0	82	0	9	0	3	0			2	0	24	0
B	none	none	SWE	5	0	3	0	11	0	8	0	7	0	4	0	0	0		
B	OTTER	none	DEU									0	0	6	0	0	0	0	0
B	OTTER	none	DNK	60	0	66	0	33	0	10	0	3	0	6	1	1	0	2	0
B	OTTER	NONE	LTU													0	0		
B	OTTER	none	LVA																
B	OTTER	none	POL	38	0	32	0	8	0	3	0	2	0			0	0	31	2
B	OTTER	NONE	SWE	24	0	22	0	15	0	16	0	16	0	22	2	10	0	3	0
B	PEL_TRAWL	none	DEU	5	0					0	0					0	0		
B	PEL_TRAWL	none	DNK	29	0	80	0	21	0	24	0	6	0	13	1	4	5	1	0
B	PEL_TRAWL	none	EST			47	0	0	0	40	0	19	0	17	1			7	0
B	PEL_TRAWL	NONE	LTU											52	0	30	43	27	0
B	PEL_TRAWL	none	LVA	57	0	69	0	56	0	207	0	149	0	177	14	159	107	254	21
B	PEL_TRAWL	none	POL	321	0	352	0	262	0	133	0	143	0	58	5	58	54	13	0
B	PEL_TRAWL	none	SWE	102	0	96	0	36	0	100	0	79	0	96	12	22	0	13	2
B	POTS	none	DNK			0	0			0	0								
B	POTS	none	POL	0	0	0	0	1	0									2	0
B	POTS	none	SWE	0	0	0	0	0	0	0	0	1	0	12	1	8	0	0	0
B	r-DEM_SEINE	BACOMA	DEU					67	0	58	0	94	0	339	0	233	0	365	0
B	r-DEM_SEINE	none	DEU	1	0														
B	r-DEM_SEINE	none	DNK	0	0	89	0	82	0	45	0							90	0
B	r-GILL	none	DEU	19	1	172	5	16	0	2	0	8	0	19	0				
B	r-GILL	none	DNK	595	13	605	15	719	25	729	51	871	32	789	28	465	43	404	0
B	r-GILL	none	EST			301	9	296	12	229	21	168	6	161	4				
B	r-GILL	NONE	LTU			3	0			1	0			451	16	484	139	305	0
B	r-GILL	none	LVA	3380	146	2106	70	1821	69	1657	195	1964	73	2333	72	2336	235	1710	80
B	r-GILL	none	POL	5217	158	3496	109	3582	139	2048	132	2788	70	3448	138	3323	255	2939	144
B	r-GILL	none	SWE	2894	40	1864	57	1629	55	1517	93	1969	75	1835	98	1081	32	802	40
B	r-LONGLINE	none	DEU	0	0	1	0	0	0			0	0			0	0		
B	r-LONGLINE	none	DNK	238	2	378	5	319	0	192	0	113	0	89	6	139	16	122	0
B	r-LONGLINE	NONE	LTU											28	0	22	0	17	0
B	r-LONGLINE	none	POL	2122	26	1804	25	2553	0	1371	0	913	3	514	36	1372	173	1104	30
B	r-LONGLINE	none	SWE	1197	16	951	19	896	0	537	0	724	1	621	48	412	62	356	21
B	r-OTTER	BACOMA	DEU					1199	220	596	110	1960	123	1991	260	2456	244	793	102
B	r-OTTER	BACOMA	EST			73	5	28	5	63	12					526	55	622	85
B	r-OTTER	BACOMA	LTU											2042	189	2595	232	2702	110
B	r-OTTER	BACOMA	LVA	623	26	931	23	1603	106	1043	39	1658	156	1776	130	2434	311	2856	320
B	r-OTTER	BACOMA	POL	5366	280	5291	358	6282	704	3399	506	4466	272	5478	489	6548	624	6039	814
B	r-OTTER	BACOMA	SWE	7131	426	4502	649	5357	1334	6108	1459	5792	665	6785	982	7030	656	7009	1128
B	r-OTTER	none	DEU	1039	36	1570	44					26	1	34	0				
B	r-OTTER	none	DNK	3427	65	2964	73	6443	374	4539	118	5842	129	6683	130	9487	223	9653	10
B	r-OTTER	none	LTU			23	0	112	9	669	11								
B	r-OTTER	NONE	POL															474	0
B	r-OTTER	none	SWE											156	21	274	27		
B	r-OTTER	T90	SWE											77	12	887	75	1145	190
B	r-PEL_TRAWL	BACOMA	DEU					728	124	870	94	260	12	842	78	1228	34	1896	296
B	r-PEL_TRAWL	BACOMA	EST			103	0	277	42	446	41	611	63	445	38	266	8	547	107
B	r-PEL_TRAWL	BACOMA	LTU															37	0
B	r-PEL_TRAWL	BACOMA	LVA	348	9	6	0	140	28	751	86	32	3	122	10				
B	r-PEL_TRAWL	BACOMA	POL	1188	20	235	0	1111	22	1378	21	34	2	261	8	28	1	150	27
B	r-PEL_TRAWL	BACOMA	SWE	494	26	321	0	1596	393	1226	227	162	32	394	46	114	9	553	172
B	r-PEL_TRAWL	none	DEU	1530	22	578	22												
B	r-PEL_TRAWL	none	DNK	394	3	174	6	543	0	356	0	14	0	91	0	55	0	49	0
B	r-PEL_TRAWL	none	LTU			122	4	791	0	1732	0			218	0	13	0		
B	r-PEL_TRAWL	NONE	POL															17	0
B	r-PEL_TRAWL	T90	SWE															24	7
B	r-TRAMMEL	none	DNK	7	0	2	0	4	0	36	0	26	0	68	0	10	0	1	0
B	r-TRAMMEL	none	SWE	2	0	1	0	0	0	0	0	1	0	0	0			0	0
B	TRAMMEL	none	DNK					0	0	1	0								
B	TRAMMEL	none	SWE	1	0	0	0	0	0			0	0						
C	GILL	none	FIN	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0
C	GILL	none	SWE			1	0	0	0							0	0		
C	OTTER	none	SWE	0	0	0	0	4	0										
C	PEL_TRAWL	none	DNK																
C	POTS	none	FIN	0	0	0	0							0	0			0	0
C	r-GILL	none	SWE	12	0	10	0	10	0	13	0	15	0	34	2	41	1	60	3
C	r-LONGLINE	none	SWE									0	0						
C	r-OTTER	BACOMA	SWE									1	0						
GRAND TOTAL A+B+C				60340	1839	53314	2429	62310	4136	56760	3903	49688	2053	53108	3576	57067	4462	58447	4856
GRAND TOTAL 28.2				264	0	355	3	267	2	209	7	101	1	160	0	50	0	80	0

Table 5.1.3.2 Landings (t) and discards (t) for cod in 2004-2011 by gear category and area. An "r" in front of the gear type indicates regulated gears in accordance with Council Regulation (EC) 1098/2007. Gear types without an "r" are non-regulated gears. Data from Estonia are only available from 2005 onwards

REG_AREA	REG_GEAR	SPECON	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D	2009 L	2009 D	2010 L	2010 D	2011 L	2011 D
28.2	GILL	none													0	0	0	0
	OTTER	none			0	0	1	0										
	PEL_TRAWL	none	17	0	9	0	1	0	13	0	5	0			1	0	3	0
	r-GILL	none	74	0	151	3	1	2	102	7	39	1	1	0	37	0	36	0
	r-OTTER	BACOMA	173	0	195	0	1	0	94	0	57	0	1	0	12	0	41	0
	r-PEL_TRAWL	BACOMA																
A	BEAM	none													2	0	3	0
	DEM_SEINE	none	0	0	0	0	1	0	0	0								
	DREDGE	none																
	GILL	none	65	0	282	4	4	0	142	0	27	0	4	0	11	0	9	0
	none	none	2786	0	467	0	3	0	143	0	70	0	3	0	57	0	30	0
	OTTER	none	97	0	201	0	4	0	89	0	79	0	3	0	30	48	68	0
	PEL_TRAWL	none	131	1	265	0	4	0	147	0	117	0	5	0	65	0	42	10
	POTS	none	5	0	271	0	4	0	180	0	66	0	3	0	99	0	55	0
	r-BEAM	BACOMA									9	0						
		none																
	r-DEM_SEINE	BACOMA					1	0	143	0	250	0	1	0	51	0	71	0
		none	1324	81	1082	71	1	64	1425	136	1222	2	1	9	466	7	375	13
	r-GILL	none	3848	55	6204	256	6	0	5976	0	5447	3	6	245	3608	91	3445	48
	r-LONGLINE	none	479	4	1247	58	4	0	752	0	287	0	4	1	310	0	435	2
	r-OTTER	BACOMA	884	53	1001	2	4	406	7821	542	5022	319	3	411	3199	634	4598	1001
		none	11433	327	12072	521	3	5	6930	9	5520	11	2	10	4442	13	5387	0
		T90													45	4	149	65
	r-PEL_TRAWL	BACOMA	8	0	33	0	3	0	200	0	7	0			13	0	19	5
		none	34	0	104	0	2	0	19	0	7	0	1	0	35	0	0	0
	r-TRAMMEL	none	266	3	542	19	3	0	580	0	597	0	3	22	477	1	528	1
	TRAMMEL	none	4	0	21	0	2	0	8	0	7	0	2	0	1	0	0	0
B	DEM_SEINE	none															1	0
	DREDGE	none									6	0						
	GILL	none	53	0	37	0	3	0	43	0	8	0	3	0	1	0	13	0
	none	none	1062	0	44	0	2	0	17	0	10	0	1	0	2	0	24	0
	OTTER	none	122	0	120	0	3	0	29	0	21	0	3	3	11	0	36	2
	PEL_TRAWL	none	514	0	644	0	5	0	504	0	396	0	6	33	273	209	315	23
	POTS	none	0	0	0	0	2	0	0	0	1	0	1	1	8	0	2	0
	r-DEM_SEINE	BACOMA					1	0	58	0	94	0	1	0	233	0	365	0
		none	1	0	89	0	1	0	45	0							90	0
	r-GILL	none	12105	358	8547	265	6	300	6183	492	7768	256	7	356	7689	704	6160	264
	r-LONGLINE	none	3557	44	3134	49	4	0	2100	0	1750	4	4	90	1945	251	1599	51
	r-OTTER	BACOMA	13120	732	10797	1035	5	2369	11209	2126	13876	1216	5	2050	21589	2122	20021	2559
		none	4466	101	4557	117	2	383	5208	129	5868	130	3	151	9761	250	10127	10
		T90											1	12	887	75	1145	190
	r-PEL_TRAWL	BACOMA	2030	55	665	0	5	609	4671	469	1099	112	5	180	1636	52	3183	602
		none	1924	25	874	32	2	0	2088	0	14	0	2	0	68	0	66	0
		T90															24	7
	r-TRAMMEL	none	9	0	3	0	2	0	36	0	27	0	2	0	10	0	1	0
	TRAMMEL	none	1	0	0	0	2	0	1	0	0	0						
C	GILL	none	0	0	1	0	2	0	0	0	0	0	1	0	2	0	1	0
	OTTER	none	0	0	0	0	1	0										
	PEL_TRAWL	none																
	POTS	none	0	0	0	0							1	0			0	0
	r-GILL	none	12	0	10	0	1	0	13	0	15	0	1	2	41	1	60	3
	r-LONGLINE	none									0	0						
	r-OTTER	BACOMA									1	0						

Table 5.1.3.3 Discard rates for cod 2004-2011 by gear category, area and country. An "r" in front of the gear type indicates regulated gears in accordance with Council Regulation (EC) 1098/2007). Gear types without an "r" are non-regulated gears. Data from Estonia are only available from 2005 onwards

REG_AREA	REG_GEAR	SPECON	COUNTRY	2004	2005	2006	2007	2008	2009	2010	2011
28.2	GILL	none	LVA	0	0	0	0	0	0	0	0
28.2	OTTER	none	LVA	0	0	0	0	0	0	0	0
28.2	PEL_TRAWL	NONE	EST	0	0	0	0	0	0	0	0
28.2	PEL_TRAWL	none	LVA	0	0	0	0	0	0	0	0
28.2	r-GILL	none	LVA	0	0.02	0.02	0.06	0.02	0	0	0
28.2	r-OTTER	BACOMA	EST	0	0	0	0	0	0	0	0
28.2	r-OTTER	BACOMA	LVA	0	0	0	0	0	0	0	0
28.2	r-PEL_TRAWL	BACOMA	LVA	0	0	0	0	0	0	0	0
A	BEAM	none	DEU	0	0	0	0	0	0	0	0
A	DEM_SEINE	none	DNK	0	0	0	0	0	0	0	0
A	DEM_SEINE	none	POL	0	0	0	0	0	0	0	0
A	DREDGE	none	DNK	0	0	0	0	0	0	0	0
A	GILL	none	DEU	0	0	0	0	0	0	0	0
A	GILL	none	DNK	0	0.02	0	0	0	0	0	0
A	GILL	none	POL	0	0	0	0	0	0	0	0
A	GILL	none	SWE	0	0	0	0	0	0	0	0
A	none	none	DEU	0	0	0	0	0	0	0	0
A	none	none	DNK	0	0	0	0	0	0	0	0
A	none	none	SWE	0	0	0	0	0	0	0	0
A	OTTER	none	DEU	0	0	0	0	0	0	0.61	0
A	OTTER	none	DNK	0	0	0	0	0	0	0.64	0
A	OTTER	none	POL	0	0	0	0	0	0	0	0
A	OTTER	none	SWE	0	0	0	0	0	0	0	0
A	PEL_TRAWL	none	DEU	0	0	0	0	0	0	0	0.14
A	PEL_TRAWL	none	DNK	0	0	0	0	0	0	0	0
A	PEL_TRAWL	none	LVA	0	0	0	0	0	0	0	0
A	PEL_TRAWL	none	POL	0	0	0	0	0	0	0	0
A	PEL_TRAWL	none	SWE	0.02	0	0	0	0	0	0	0.26
A	POTS	none	DEU	0	0	0	0	0	0	0	0
A	POTS	none	DNK	0	0	0	0	0	0	0	0
A	POTS	none	POL	0	0	0	0	0	0	0	0
A	POTS	none	SWE	0	0	0	0	0	0	0	0
A	r-BEAM	BACOMA	DEU	0	0	0	0	0	0	0	0
A	r-BEAM	none	DEU	0	0	0	0	0	0	0	0
A	r-DEM_SEINE	BACOMA	DEU	0	0	0	0	0	0	0	0
A	r-DEM_SEINE	none	DEU	0	0.1	0	0	0	0	0	0
A	r-DEM_SEINE	none	DNK	0.06	0.06	0.05	0.09	0	0.02	0.01	0.04
A	r-GILL	none	DEU	0.02	0.04	0	0	0	0.09	0.03	0.03
A	r-GILL	none	DNK	0.01	0.04	0	0	0	0.05	0.02	0
A	r-GILL	none	EST	0	0.05	0	0	0	0.04	0	0
A	r-GILL	none	LVA	0.01	0.04	0	0	0	0.04	0.04	0.04
A	r-GILL	none	POL	0.02	0.04	0	0	0	0.12	0.02	0.02
A	r-GILL	none	SWE	0.01	0.04	0	0	0	0.04	0.02	0.02
A	r-LONGLINE	none	DEU	0	0.05	0	0	0	0	0	0
A	r-LONGLINE	none	DNK	0	0.05	0	0	0	0.01	0	0
A	r-LONGLINE	none	LTU	0	0	0	0	0	0	0	0
A	r-LONGLINE	none	POL	0	0.04	0	0	0	0	0	0
A	r-LONGLINE	none	SWE	0.03	0.03	0	0	0	0	0	0.01
A	r-OTTER	BACOMA	DEU	0	0	0.06	0.06	0.07	0.1	0.18	0.12
A	r-OTTER	BACOMA	EST	0	0	0	0	0	0	0	0
A	r-OTTER	BACOMA	LVA	0	0	0	0.07	0	0	0.11	0
A	r-OTTER	BACOMA	POL	0.09	0	0.07	0.06	0.06	0.08	0.08	0.18
A	r-OTTER	BACOMA	SWE	0.05	0	0.05	0.08	0.04	0.09	0.09	0.3
A	r-OTTER	none	DEU	0.08	0.1	0	0	0	0	0	0
A	r-OTTER	none	DNK	0	0	0	0	0	0	0	0
A	r-OTTER	none	LTU	0	0	0	0	0	0	0	0
A	r-OTTER	NONE	POL	0	0	0	0	0	0	0	0
A	r-OTTER	none	SWE	0	0	0	0	0	0	0.1	0
A	r-OTTER	T90	SWE	0	0	0	0	0	0	0.08	0.3
A	r-PEL_TRAWL	BACOMA	DEU	0	0	0	0	0	0	0	0.19
A	r-PEL_TRAWL	BACOMA	EST	0	0	0	0	0	0	0	0
A	r-PEL_TRAWL	BACOMA	POL	0	0	0	0	0	0	0	0
A	r-PEL_TRAWL	BACOMA	SWE	0	0	0	0	0	0	0	0.25
A	r-PEL_TRAWL	none	DEU	0	0	0	0	0	0	0	0
A	r-PEL_TRAWL	none	DNK	0	0	0	0	0	0	0	0
A	r-PEL_TRAWL	none	LTU	0	0	0	0	0	0	0	0

Table 5.1.3.3 continued.

B	DREDGE	none	DNK	0	0	0	0	0	0	0	0
B	GILL	none	DNK	0	0	0	0	0	0	0	0
B	GILL	NONE	LVA	0	0	0	0	0	0	0	0
B	GILL	none	POL	0	0	0	0	0	0	0	0
B	GILL	none	SWE	0	0	0	0	0	0	0	0
B	none	none	DNK	0	0	0	0	0	0	0	0
B	none	none	SWE	0	0	0	0	0	0	0	0
B	OTTER	none	DEU	0	0	0	0	0	0	0	0
B	OTTER	none	DNK	0	0	0	0	0	0.14	0	0
B	OTTER	NONE	LTU	0	0	0	0	0	0	0	0
B	OTTER	none	LVA	0	0	0	0	0	0	0	0
B	OTTER	none	POL	0	0	0	0	0	0	0	0.06
B	OTTER	NONE	SWE	0	0	0	0	0	0.08	0	0
B	PEL_TRAV	none	DEU	0	0	0	0	0	0	0	0
B	PEL_TRAV	none	DNK	0	0	0	0	0	0.07	0.5	0
B	PEL_TRAV	none	EST	0	0	0	0	0	0.06	0	0
B	PEL_TRAV	NONE	LTU	0	0	0	0	0	0	0.59	0
B	PEL_TRAV	none	LVA	0	0	0	0	0	0.07	0.4	0.08
B	PEL_TRAV	none	POL	0	0	0	0	0	0.08	0.48	0
B	PEL_TRAV	none	SWE	0	0	0	0	0	0.11	0	0.13
B	POTS	none	DNK	0	0	0	0	0	0	0	0
B	POTS	none	POL	0	0	0	0	0	0	0	0
B	POTS	none	SWE	0	0	0	0	0	0.08	0	0
B	r-DEM_SE	BACOMA	DEU	0	0	0	0	0	0	0	0
B	r-DEM_SE	none	DEU	0	0	0	0	0	0	0	0
B	r-DEM_SE	none	DNK	0	0	0	0	0	0	0	0
B	r-GILL	none	DEU	0.05	0.03	0	0	0	0	0	0
B	r-GILL	none	DNK	0.02	0.02	0.03	0.07	0.04	0.03	0.08	0
B	r-GILL	none	EST	0	0.03	0.04	0.08	0.03	0.02	0	0
B	r-GILL	NONE	LTU	0	0	0	0	0	0.03	0.22	0
B	r-GILL	none	LVA	0.04	0.03	0.04	0.11	0.04	0.03	0.09	0.04
B	r-GILL	none	POL	0.03	0.03	0.04	0.06	0.02	0.04	0.07	0.05
B	r-GILL	none	SWE	0.01	0.03	0.03	0.06	0.04	0.05	0.03	0.05
B	r-LONGLIN	none	DEU	0	0	0	0	0	0	0	0
B	r-LONGLIN	none	DNK	0.01	0.01	0	0	0	0.06	0.1	0
B	r-LONGLIN	NONE	LTU	0	0	0	0	0	0	0	0
B	r-LONGLIN	none	POL	0.01	0.01	0	0	0	0.07	0.11	0.03
B	r-LONGLIN	none	SWE	0.01	0.02	0	0	0	0.07	0.13	0.06
B	r-OTTER	BACOMA	DEU	0	0	0.16	0.16	0.06	0.12	0.09	0.11
B	r-OTTER	BACOMA	EST	0	0.06	0.15	0.16	0	0	0.09	0.12
B	r-OTTER	BACOMA	LTU	0	0	0	0	0	0.08	0.08	0.04
B	r-OTTER	BACOMA	LVA	0.04	0.02	0.06	0.04	0.09	0.07	0.11	0.1
B	r-OTTER	BACOMA	POL	0.05	0.06	0.1	0.13	0.06	0.08	0.09	0.12
B	r-OTTER	BACOMA	SWE	0.06	0.13	0.2	0.19	0.1	0.13	0.09	0.14
B	r-OTTER	none	DEU	0.03	0.03	0	0	0.04	0	0	0
B	r-OTTER	none	DNK	0.02	0.02	0.05	0.03	0.02	0.02	0.02	0
B	r-OTTER	none	LTU	0	0	0.07	0.02	0	0	0	0
B	r-OTTER	NONE	POL	0	0	0	0	0	0	0	0
B	r-OTTER	none	SWE	0	0	0	0	0	0.12	0.09	0
B	r-OTTER	T90	SWE	0	0	0	0	0	0.13	0.08	0.14
B	r-PEL_TRA	BACOMA	DEU	0	0	0.15	0.1	0.04	0.08	0.03	0.14
B	r-PEL_TRA	BACOMA	EST	0	0	0.13	0.08	0.09	0.08	0.03	0.16
B	r-PEL_TRA	BACOMA	LTU	0	0	0	0	0	0	0	0
B	r-PEL_TRA	BACOMA	LVA	0.03	0	0.17	0.1	0.09	0.08	0	0
B	r-PEL_TRA	BACOMA	POL	0.02	0	0.02	0.02	0.06	0.03	0.03	0.15
B	r-PEL_TRA	BACOMA	SWE	0.05	0	0.2	0.16	0.16	0.1	0.07	0.24
B	r-PEL_TRA	none	DEU	0.01	0.04	0	0	0	0	0	0
B	r-PEL_TRA	none	DNK	0.01	0.03	0	0	0	0	0	0
B	r-PEL_TRA	none	LTU	0	0.03	0	0	0	0	0	0
B	r-PEL_TRA	NONE	POL	0	0	0	0	0	0	0	0
B	r-PEL_TRA	T90	SWE	0	0	0	0	0	0	0	0.23
B	r-TRAMME	none	DNK	0	0	0	0	0	0	0	0
B	r-TRAMME	none	SWE	0	0	0	0	0	0	0	0
B	TRAMMEL	none	DNK	0	0	0	0	0	0	0	0
B	TRAMMEL	none	SWE	0	0	0	0	0	0	0	0
C	GILL	none	FIN	0	0	0	0	0	0	0	0
C	GILL	none	SWE	0	0	0	0	0	0	0	0
C	OTTER	none	SWE	0	0	0	0	0	0	0	0
C	PEL_TRAV	none	DNK	0	0	0	0	0	0	0	0
C	POTS	none	FIN	0	0	0	0	0	0	0	0
C	r-GILL	none	SWE	0	0	0	0	0	0.06	0.02	0.05
C	r-LONGLIN	none	SWE	0	0	0	0	0	0	0	0
C	r-OTTER	BACOMA	SWE	0	0	0	0	0	0	0	0

A	r-DEM_SE	FDFBAL	DNK	0	0	0	0	0	0	0	0
A	r-OTTER	FDFBAL	DNK	0	0	0	0	0	0	0	0
A	r-PEL_TRA	FDFBAL	DNK	0	0	0	0	0	0	0	0
B	DEM_SEIN	FDFBAL	DNK	0	0	0	0	0	0	0	0
B	OTTER	FDFBAL	DNK	0	0	0	0	0	0	0	0
B	PEL_TRAV	FDFBAL	DNK	0	0	0	0	0	0	0	0
B	r-OTTER	FDFBAL	DNK	0	0	0	0	0	0	0	0
B	r-PEL_TRA	FDFBAL	DNK	0	0	0	0	0	0	0	0

Table 5.1.3.4: Discard rates for cod 2004-2011 by gear category and area. An "r" in front of the gear type indicates regulated gears in accordance with Council Regulation (EC) 1098/2007. Gear types without an "r" are non-regulated gears. Data from Estonia are only available from 2005 onwards.

REG_AREA	REG_GEAR	2004	2005	2006	2007	2008	2009	2010	2011
28.2	GILL	0	0	0	0	0	0	0	0
28.2	OTTER	0	0	0	0	0	0	0	0
28.2	PEL_TRAWL	0	0	0	0	0	0	0	0
28.2	r-GILL	0	0.02	0.02	0.06	0.02	0	0	0
28.2	r-OTTER	0	0	0	0	0	0	0	0
28.2	r-PEL_TRAWL	0	0	0	0	0	0	0	0
A	BEAM	0	0	0	0	0	0	0	0
A	DEM_SEINE	0	0	0	0	0	0	0	0
A	DREDGE	0	0	0	0	0	0	0	0
A	GILL	0	0.01	0	0	0	0	0	0
A	none	0	0	0	0	0	0	0	0
A	OTTER	0	0	0	0	0	0	0.62	0
A	PEL_TRAWL	0.01	0	0	0	0	0	0	0.19
A	POTS	0	0	0	0	0	0	0	0
A	r-BEAM	0	0	0	0	0	0	0	0
A	r-DEM_SEINE	0.06	0.06	0.04	0.08	0	0.01	0.01	0.03
A	r-GILL	0.01	0.04	0	0	0	0.06	0.02	0.01
A	r-LONGLINE	0.01	0.04	0	0	0	0	0	0
A	r-OTTER	0.03	0.04	0.03	0.04	0.03	0.04	0.08	0.1
A	r-PEL_TRAWL	0	0	0	0	0	0	0	0.22
A	r-TRAMMEL	0.01	0.03	0	0	0	0.05	0	0
A	TRAMMEL	0	0	0	0	0	0	0	0
B	DREDGE	0	0	0	0	0	0	0	0
B	GILL	0	0	0	0	0	0	0	0
B	none	0	0	0	0	0	0	0	0
B	OTTER	0	0	0	0	0	0.08	0	0.05
B	PEL_TRAWL	0	0	0	0	0	0.07	0.43	0.07
B	POTS	0	0	0	0	0	0.08	0	0
B	r-DEM_SEINE	0	0	0	0	0	0	0	0
B	r-GILL	0.03	0.03	0.04	0.07	0.03	0.04	0.08	0.04
B	r-LONGLINE	0.01	0.02	0	0	0	0.07	0.11	0.03
B	r-OTTER	0.05	0.07	0.12	0.12	0.06	0.08	0.07	0.09
B	r-PEL_TRAWL	0.02	0.02	0.11	0.06	0.09	0.07	0.03	0.16
B	r-TRAMMEL	0	0	0	0	0	0	0	0
B	TRAMMEL	0	0	0	0	0	0	0	0
C	GILL	0	0	0	0	0	0	0	0
C	OTTER	0	0	0	0	0	0	0	0
C	PEL_TRAWL	0	0	0	0	0	0	0	0
C	POTS	0	0	0	0	0	0	0	0
C	r-GILL	0	0	0	0	0	0.06	0.02	0.05
C	r-LONGLINE	0	0	0	0	0	0	0	0
C	r-OTTER	0	0	0	0	0	0	0	0
Fully Documented Fishery									
A	r-DEM_SEINE	0	0	0	0	0	0	0	0
A	r-OTTER	0	0	0	0	0	0	0	0
A	r-PEL_TRAWL	0	0	0	0	0	0	0	0
B	DEM_SEINE	0	0	0	0	0	0	0	0
B	OTTER	0	0	0	0	0	0	0	0
B	PEL_TRAWL	0	0	0	0	0	0	0	0
B	r-OTTER	0	0	0	0	0	0	0	0
B	r-PEL_TRAWL	0	0	0	0	0	0	0	0

Table 5.1.3.5 Cod landings (L) and discards (D) at ages 1-9 (‘000) by gear category and area 2003-2011. An “r” in front of the gear type indicates regulated gears in accordance with Council Regulation (EC) 1098/2007 (see section 2.6). Gear types without an “r” are non-regulated gears. Data on age distribution were available for sub-areas A and B only. Data from Estonia are only available from 2005 onwards.

REG_AREA	Year	REG_GEAR	SPECON	LANDINGS t	DISCARDS t	AGE 1 L	AGE 1 D	AGE 2 L	AGE 2 D	AGE 3 L	AGE 3 D	AGE 4 L	AGE 4 D	AGE 5 L	AGE 5 D
28.2	2003	r-GILL	none	99.771	5.4		1.248		0.777	4.287	7.352	68.683	2.219	33.047	0.277
28.2	2003	r-OTTER	BACOMA	16.397	0.4			0.012	0.015	0.327	0.166	3.112	0.575	5.492	0.004
28.2	2004	r-OTTER	BACOMA	47.475	0.2					0.199		2.682		8.146	
28.2	2005	r-OTTER	BACOMA	158.267						3.205		62.763		67.57	
28.2	2006	r-GILL	none	15.267	0.42				0.023	0.085	0.189	5.203	0.333	7.823	0.018
28.2	2006	r-OTTER	BACOMA	63.466	0.5					7.009		29.352		18.838	
28.2	2007	r-GILL	none	90.046	7.02		0.627	0.098	5.875	4.003	5.19	31.266	0.354	37.428	0.174
28.2	2008	r-GILL	none	24.127	1.22		0.022		0.707	3.18	1.239	7.17	0.197	7.758	0.044
A	2003	DREDGE	none	8.496		1.239		9.417		1.089					
A	2003	GILL	none	111.743	0.002	3.367		31.01		29.512		10.539		2.489	
A	2003	none	none	2960.165		195.562		1176.279		712.154		245.126		53.616	
A	2003	OTTER	none	152.681		21.786		90.743		36.326		7.536		1.097	
A	2003	PEL_TRAWL	none	122.178		8.201		69.607		39.137		8.136		1.307	
A	2003	r-DEM_SEINE	none	1351.443	80.214	141.798	57.83	671.326	142.27	439.22	45.88	101.381	5.53	11.823	0.59
A	2003	r-GILL	none	3998.597	59.267	191.713	11.174	1437.638	31.013	1027.16	4.077	350.883		70.184	
A	2003	r-LONGLINE	none	395.574	4.397	7.622		143.518		164.2		45.696		5.696	
A	2003	r-OTTER	none	11720.873	1550.217	1132.676	932.936	6186.382	2416.389	3687.89	209.248	877.963	0.106	139.89	0.01
A	2003	r-PEL_TRAWL	none	92.81	1.484	14.175	0.629	54.646	1.754	19.297	0.245	4.119		0.457	
A	2003	r-TRAMMEL	none	300.606	3.803	7.666		48.33		38.652		31.23		11.701	
A	2003	TRAMMEL	none	3.907	0.056	0.275		2.173		0.859		0.321		0.056	
A	2004	GILL	none	64.843	0	3.235		9.006		25.531		4.687		1.412	
A	2004	none	none	2786.019		206.939		675.406		1318.615		201.666		38.844	
A	2004	OTTER	none	97.905		9.926		26.246		46.838		6.138		1.349	
A	2004	PEL_TRAWL	none	91.08	0.192	2.161	0.202	23.48	0.302	49.636	0.101	7.257		1.551	
A	2004	r-DEM_SEINE	none	1323.573	80.862	95.238	33.495	325.636	153.42	819.498	55.411	55.816	6.323	10.157	0.791
A	2004	r-GILL	none	3846.883	55.115	144.728		698.335		1599.098		315.254		70.641	
A	2004	r-LONGLINE	none	478.922	3.524	25.909		106.176		241.11		37.396		6.027	
A	2004	r-OTTER	none	11433.168	327.124	640.812	415.127	3131.414	388.368	6348.471	44.898	696.05	0.011	132.425	
A	2004	r-PEL_TRAWL	none	33.935		3.25		12.207		17.649		2.827		0.297	
A	2004	r-TRAMMEL	none	265.909	3.386	3.688		13.911		53.046		23.178		11.493	
A	2004	TRAMMEL	none	4.223				0.098		0.784		0.492		0.204	
A	2005	DEM_SEINE	none	0.487		0.001		0.321		0.092		0.08		0.011	
A	2005	GILL	none	281.902	4.031	14.237		155.71		41.284		39.042		7.959	
A	2005	none	none	467.056		10.597		191.321		58.008		76.153		13.724	
A	2005	OTTER	none	201.444		6.976		124.449		31.696		30.894		6.444	
A	2005	PEL_TRAWL	none	263.992		19.112		138.325		29.096		31.939		7.344	
A	2005	POTS	none	271.683		39.316		220.18		27.567		15.44		3.496	
A	2005	r-DEM_SEINE	none	1082.046	70.676	83.986	98.499	781.996	105.029	158.968	30.537	145.72	3.187	19.44	0.36
A	2005	r-GILL	none	6144.971	253.906	207.236	49.765	2758.068	38.752	817.522	2.444	795.494	0.045	197.915	
A	2005	r-LONGLINE	none	1245.759	58.067	20.077		604.882		200.849		193.047		43.748	
A	2005	r-OTTER	BACOMA	274.871	2.137				1.71	8.815	3.419	64.352	0.57	57.299	
A	2005	r-OTTER	none	10454.959	460.271	418.881	707.1	6673.821	528.751	1645.394	1.536	1423.472	0.247	274.103	0.029
A	2005	r-PEL_TRAWL	BACOMA	10.911	0.103				0.029	0.991	0.225	7.018	0.008	2.394	
A	2005	r-PEL_TRAWL	none	104.713		0.994		70.232		20.587		16.877		4.253	
A	2005	r-TRAMMEL	none	542.518	18.552	6.236		84.467		40.106		78.031		20.939	
A	2005	TRAMMEL	none	20.319		0.279		4.641		2.005		3.422		0.704	
A	2006	DEM_SEINE	none	6.359		0.502		1.996		2.729		0.283		0.056	
A	2006	GILL	none	141.715		3.694		24.657		83.758		6.179		2.947	
A	2006	none	none	849.63		12.749		113.703		448.044		36.832		25.389	
A	2006	OTTER	none	180.724		0.282		15.23		130.528		6.067		5.143	
A	2006	PEL_TRAWL	none	264.373		1.392		27.535		165.965		9.785		6.775	

Table 5.1.3.5 continued.

A	2006	POTS	none	89.848		3.598		23.549		51.43		3.273		0.904	
A	2006	r-DEM_SEINE	none	1338.573	63.56	31.738	28.074	195.954	111.83	1015.075	42.505	51.533	5.205	19.808	0.864
A	2006	r-GILL	none	5883.069	0.194	113.775	0.191	916.596	0.166	2957.087	0.069	310.229		159.137	
A	2006	r-LONGLINE	none	737.746		6.591		112.838		420.531		28.09		17.969	
A	2006	r-OTTER	BACOMA	5709.844	384.024	190.925	374.631	1509.086	300.3	3806.33	161.139	95.523		34.134	
A	2006	r-OTTER	none	6471.263	4.788	118.419	4.773	1022.277	7.642	4501.082	2.741	244.705	0.37	153.741	0.05
A	2006	r-PEL_TRAWL	none	98.334		9.189		37.824		56.597		3.829		0.949	
A	2006	r-TRAMMEL	none	588.309		2.473		29.237		196.202		31.435		34.764	
A	2006	TRAMMEL	none	5.732		0.006		0.135		1.597		0.286		0.278	
A	2007	DEM_SEINE	none	0.217		0.006		0.083		0.075		0.065		0.017	
A	2007	GILL	none	142.01		1.075		31.024		31.861		40.364		9.282	
A	2007	none	none	143.127		0.786		28.535		27.127		33.827		8.876	
A	2007	OTTER	none	89.405		0.081		14.231		16.203		24.439		4.641	
A	2007	PEL_TRAWL	none	146.056		0.076		12.461		19.093		40.29		8.1	
A	2007	POTS	none	179.698		3.127		64.205		55.742		49.22		11.013	
A	2007	r-DEM_SEINE	none	1425.059	135.692	6.235	252.374	351.521	196.09	380.874	55.554	461.559	4.97	83.965	0.72
A	2007	r-GILL	none	5523.286	0.542	47.115	0.303	938.331	0.752	1045.492	0.06	1367.781		375.881	
A	2007	r-LONGLINE	none	752.957		4.214		133.014		135.101		173.786		46.794	
A	2007	r-OTTER	BACOMA	6436.365	541.695	681.367	700.85	2293.944	674.622	1764.361	72.631	1146.095	25.98	44.341	
A	2007	r-OTTER	none	6927.983	8.954	41.697	15.832	1667.457	11.596	1639.089	3.445	2019.189	0.663	364.712	0.01
A	2007	r-PEL_TRAWL	none	18.536		0.346		5.203		4.94		5.498		1.188	
A	2007	r-TRAMMEL	none	580.558		0.396		20.792		30.394		108.467		34.99	
A	2007	TRAMMEL	none	7.974		0.011		0.996		1.252		2.148		0.395	
A	2008	GILL	none	28.047		0.109		1.519		4.547		3.909		3.113	
A	2008	none	none	70.548		0.315		6.354		15.599		11.298		7.677	
A	2008	OTTER	none	23.84		0.018		1.426		6.229		4.733		2.581	
A	2008	PEL_TRAWL	none	103.242		163.15		47.191		14.311		13.294		10.057	
A	2008	POTS	none	65.866		1.82		12.501		21.538		13.523		6.672	
A	2008	r-DEM_SEINE	none	1222.033	1.918	8.144	6.91	110.552	1.41	414.228	0.2	279.735	0.02	167.307	
A	2008	r-GILL	none	3512.15	1.366	6.436	0.466	231.366	1.832	755.267	0.914	460.659	0.104	361.942	0.007
A	2008	r-LONGLINE	none	285.849		4.23		37.839		80.329		55.693		29.733	
A	2008	r-OTTER	BACOMA	5021.773	319.094	138.263	195.363	1489.189	438.133	2306.211	192.906	765.941	20.621	213.853	0.708
A	2008	r-OTTER	none	5501.681	11.261	53.625	18.221	677.274	17.986	1464.901	5.586	1005.707	1.209	638.215	0.033
A	2008	r-PEL_TRAWL	none	7.446		0.01		0.98		1.131		0.843		0.846	
A	2008	r-TRAMMEL	none	596.71	0.102	0.567	0.046	12.654	0.126	47.133	0.078	48.494	0.025	52.878	0.003
A	2008	TRAMMEL	none	5.71						0.094		0.307		0.569	
A	2009	GILL	none	13.399	0.009	0.408	0.006	0.435	0.018	1.235	0.007	2.669		1.695	
A	2009	none	none	32.421		3.515		4.802		9.484		11.49		4.292	
A	2009	OTTER	none	55.491	0.005	1016.518	0.002	0.454	0.009	3.991	0.004	7.597		5.241	
A	2009	PEL_TRAWL	none	46.466		139.355		49.965		9.755		5.527		3.642	
A	2009	POTS	none	62.167		16.071		16.821		14.342		16.407		6.361	
A	2009	r-DEM_SEINE	none	580.543	9.188	10.966	5.78	16.69	11.609	122.564	10.497	215.344	1.792	102.863	0.284
A	2009	r-GILL	none	3167.023	239.306	110.424	43.962	162.85	164.278	469.97	243.438	701.703	86.101	350.331	5.128
A	2009	r-LONGLINE	none	303.536	1.122	11.391	0.69	16.919	2.226	51.741	0.837	91.567	0.028	39.859	
A	2009	r-OTTER	BACOMA	3003.325	342.219	14.309	118.15	272.286	310.083	1194.768	367.205	1096.295	132.903	272.874	8.158
A	2009	r-OTTER	none	5352.894	9.955	322.178	15.312	464.318	17.115	1215.248	5.764	1725.443	1.291	807.725	0.045
A	2009	r-PEL_TRAWL	none	22.979		5.444		6.113		5.6		6.205		2.232	
A	2009	r-TRAMMEL	none	393.644	21.442	2.901	11.438	3.929	35.721	13.083	21.735	36.621	3.49	40.037	0.104
A	2010	GILL	none	10.139	0	0.014		2.219		3.516		2.164		0.964	
A	2010	none	none	56.584	0	0.53		18.038		20.504		11.574		4.377	
A	2010	OTTER	none	8.953	0	0.035		1.812		4.324		1.883		0.944	
A	2010	PEL_TRAWL	none	65.084	0	2.761		28.659		17.518		11.855		4.753	
A	2010	POTS	none	98.783	0	0.056		29.228		43.637		28.112		10.421	
A	2010	r-DEM_SEINE	none	465.903	6.571	0.006	4.512	59.817	9.142	241.402	7.52	148.637	1.73	52.239	0.351
A	2010	r-GILL	none	3606.88	91.26	33.012	78.252	1209.113	123.508	884.591	22.98	689.736	16.913	290.64	3.739

Table 5.1.3.5 continued.

A	2010	r-LONGLINE	none	309.634	0	0.264		77.834		101.079		59.194		23.977	
A	2010	r-OTTER	BACOMA	3199.417	633.656	111.888	246.326	1624.443	798.091	616.492	204.851	687.798	158.161	236.308	43.714
A	2010	r-OTTER	none	4437.542	12.182	2.028	7.095	769.84	28.009	1952.027	2.255	1245.13	0.56	474.49	0.08
A	2010	r-OTTER	T90	44.805	4.304	1.201	4.487	20.933	6.735	13.174	0.348	3.954		1.056	
A	2010	r-PEL_TRAWL	none	35.272				6.272		17.997		10.421		3.475	
A	2010	r-TRAMMEL	none	477.124	0.835	3.276	0.864	80.909	1.047	86.085	0.047	70.248		39.75	
A	2010	TRAMMEL	none	0.408				0.063		0.153		0.126		0.056	
A	2011	GILL	NONE	8.537	0.018		0.005	0.145	0.018	1.597	0.012	2.88		1.157	
A	2011	none	none	29.973	0			0.639		7.832		11.468		3.981	
A	2011	OTTER	NONE	68.256	0			0.641		13.511		28.089		10.133	
A	2011	PEL_TRAWL	NONE	42.628	10.262	0.034	1.109	5.309	11.671	16.36	9.617	11.538	0.267	2.909	
A	2011	POTS	none	53.769	0.083		0.034	3.768	0.109	25.086	0.042	16.39	0.001	3.65	
A	2011	r-DEM_SEINE	none	375.409	13.428		2.866	2.18	20.677	73.93	19.38	179.658	5.306	65.61	1.185
A	2011	r-GILL	NONE	3444.069	47.237	8.411	32.547	323.982	61.958	994.287	23.899	725.181	0.721	261.348	0.202
A	2011	r-LONGLINE	NONE	433.744	2.184		0.732	28.644	2.695	130.594	1.293	132.481	0.033	46.374	0.017
A	2011	r-OTTER	BACOMA	4597.402	1001.006	84.87	335.014	1850.977	1284.242	2027.689	518.73	481.697	11.678	92.516	
A	2011	r-OTTER	NONE	5383.344	0.624	0.22	4.874	101.421	0.636	1241.5	0.152	2186.514	0.006	781.727	
A	2011	r-OTTER	T90	149.196	64.834		12.177	49.083	80.763	74.243	41.872	27.445	0.448	5.934	
A	2011	r-PEL_TRAWL	BACOMA	15.003	5.095		0.313	1.488	6.334	10.166	4.218	3.561	0.02	0.709	
A	2011	r-PEL_TRAWL	none	0.094	0			0		0.008		0.03		0.014	
A	2011	r-TRAMMEL	NONE	528.141	1.471		0.624	11.9	1.89	58.072	0.784	85.658	0.018	41.691	0.004
A	2011	TRAMMEL	none	0.185	0			0.002		0.038		0.072		0.028	
B	2003	GILL	none	20.697				0.613		11.417		6.644		0.776	
B	2003	none	none	925.83				97.408		483.702		214		51.617	
B	2003	OTTER	none	58.666				6.365		43.397		12.686		1.652	
B	2003	PEL_TRAWL	none	88.424				10.275		46.681		19.006		5.321	
B	2003	r-DEM_SEINE	none	7.215				4.258		3.38		0.364		0.056	
B	2003	r-GILL	none	6366.842	133.513			717.591	12.478	1922.261	25.178	1456.398	13.742	841.46	6.942
B	2003	r-LONGLINE	none	1242.873	31.908			71.491		374.547		248.818		110.97	
B	2003	r-OTTER	BACOMA	4245.68	550.055		7.545	2.435	182.651	446.545	1008.081	1982.105	258.587	1599.822	4.434
B	2003	r-OTTER	none	8686.802	674.407	193.11	256.056	1625.259	1219.829	4704.274	612.699	1791.554	122.096	532.152	18.646
B	2003	r-PEL_TRAWL	none	153.537				11.845		114.53		35.725		7.886	
B	2003	r-TRAMMEL	none	11.067	0.017			0.413		6.61		3.179		0.496	
B	2004	GILL	none	53.257				1.789		17.892		18.115		3.364	
B	2004	none	none	1062.323				60.055		356.007		355.396		64.172	
B	2004	OTTER	none	107.187				10.12		50.884		34.852		4.165	
B	2004	PEL_TRAWL	none	513.013				61.492		239.921		160.101		19.924	
B	2004	r-DEM_SEINE	none	0.292				0.014		0.177		0.096		0.008	
B	2004	r-GILL	none	8571.745	235.801		8.261	126.724	49.106	1881.88	152.67	3038.285	42.58	1409.652	23.985
B	2004	r-LONGLINE	none	3557.042	44.161			316.944		1283.902		998.512		182.028	
B	2004	r-OTTER	BACOMA	5521.562	268.801				147.946	605.673	407.316	1721.955	91.806	1297.787	1.599
B	2004	r-OTTER	none	4465.61	100.646	56.559	45.891	717.67	130.126	2216.117	82.321	1304.436	18.517	149.195	3.389
B	2004	r-PEL_TRAWL	BACOMA	1952.358	52.651			0.966	20.113	310.747	86.213	854.516	0.105	275.568	
B	2004	r-PEL_TRAWL	none	1923.959	25.054	59.274	17.324	434.71	33.007	823.655	4.906	318.333		51.643	
B	2004	r-TRAMMEL	none	9.025	0.024			0.609		5.68		3.291		0.233	
B	2005	GILL	none	36.936	0			3.784		8.067		13.437		5.564	
B	2005	none	none	44.503				3.432		17.15		19.589		4.194	
B	2005	OTTER	none	119.711				17.505		44.261		44.838		10.175	
B	2005	PEL_TRAWL	none	608.866				98.261		240.13		225.547		46.652	
B	2005	POTS	none	0.162				0.022		0.067		0.077		0.017	
B	2005	r-DEM_SEINE	none	89.165				36.387		29.443		15.303		4.785	
B	2005	r-GILL	none	6361.617	201.88			296.943	29.809	1846.513	122.058	2311.562	44.407	890.284	8.359
B	2005	r-LONGLINE	none	3134.62	49.531		0.113	447.752		1371.774	19.118	1005.761		238.877	
B	2005	r-OTTER	BACOMA	7421.368	1034.773		13.19	59.263	942.995	1979.084	1230.47	2675.948	321.698	1714.025	40.696
B	2005	r-OTTER	none	4342.704	84.885		15.543	1124.893	100.941	1731.687	91.928	1324.534	22.838	267.843	4.26

Table 5.1.3.5 continued.

B	2005	r-PEL_TRAWL	none	874.661	31.823	24.126	53.573	426.13	31.064	211.812		124.179		20.228	
B	2005	r-TRAMMEL	none	2.362	0			0.265		0.291		0.255		0.222	
B	2006	GILL	none	55.511				8.672		37.673		13.427		3.062	
B	2006	none	none	90.826				11.003		59.082		20.97		4.791	
B	2006	OTTER	none	55.743				7.492		38.665		12.293		2.688	
B	2006	PEL_TRAWL	none	374.902				70.241		287.085		78.138		14.525	
B	2006	r-DEM_SEINE	none	82.075				9.889		56.552		20.222		4.248	
B	2006	r-GILL	none	3308.567	122.615		1.051	133.603	14.065	1050.015	72.029	1032.034	79.226	752.946	5.915
B	2006	r-LONGLINE	none	3768.222				351.051		1999.403		1098.55		279.634	
B	2006	r-OTTER	BACOMA	13698.764	2221.251		1.767	422.064	1376.364	5518.013	3742.896	5753.465	262.4	2387.762	44.053
B	2006	r-OTTER	none	6555.415	383.496		35.202	914.931	347.398	4885.862	473.963	1654.541	158.356	327.422	40.454
B	2006	r-PEL_TRAWL	BACOMA	3565.828	539.758				169.105	2551.583	1160.52	1063.002		226.856	
B	2006	r-PEL_TRAWL	none	1333.691				135.15		1040.951		403.786		79.349	
B	2006	r-TRAMMEL	none	4.239				0.525		2.276		0.713		0.217	
B	2006	TRAMMEL	none	0.104				0.032		0.062		0.007		0.002	
B	2007	GILL	none	42.725				0.253		4.848		21.349		13.177	
B	2007	none	none	15.958				0		1.352		7.69		4.736	
B	2007	OTTER	none	24.061				0.179		3.434		13.564		7.405	
B	2007	PEL_TRAWL	none	504.133				2.977		55.554		259.533		161.061	
B	2007	POTS	none	0.276				0.007		0.054		0.137		0.05	
B	2007	r-DEM_SEINE	none	44.82				0.001		4.431		24.796		14.834	
B	2007	r-GILL	none	4339.8	384.991		43.662	31.925	152.905	668.155	135.551	1744.927	47.376	993.936	44.003
B	2007	r-LONGLINE	none	2099.686				4.646		361.239		1046.827		395.17	
B	2007	r-OTTER	BACOMA	11081.297	2125.452			32.22	673.868	1638.446	2336.389	3526.93	161.632	3785.906	
B	2007	r-OTTER	none	5208.02	128.586		14.105	45.403	125.161	722.638	175.991	3072.911	52.557	1691.638	12.142
B	2007	r-PEL_TRAWL	BACOMA	4653.347	468.688	256.286	286.88	779.624	466.126	1502.068	325.263	2119.728	36.71	274.869	
B	2007	r-PEL_TRAWL	none	2088.183				0.182		250.534		1234.89		757.606	
B	2007	r-TRAMMEL	none	36.81				0.068		0.642		3.512		3.886	
B	2007	TRAMMEL	none	1.225				0.035		0.147		0.398		0.237	
B	2008	DREDGE	none	5.816				0.043		0.858		2.858		2.557	
B	2008	GILL	none	8.271				0.27		2.021		2.847		2.288	
B	2008	none	none	6.33				0.062		1.055		1.905		1.648	
B	2008	OTTER	none	15.686				0.237		2.95		6.12		5.179	
B	2008	PEL_TRAWL	none	347.431				8.673		79.944		146.085		118.171	
B	2008	r-GILL	none	5328.486	204.764		0.811	24.367	134.74	1268.727	174.137	1511.163	52.973	1423.372	25.739
B	2008	r-LONGLINE	none	1750.025	3.82			5.511		463.233		764.862		253.761	
B	2008	r-OTTER	BACOMA	13869.162	1216.164	173.798	170.408	1851.315	942.251	5206.419	1546.441	5567.228	159.255	1710.958	26.812
B	2008	r-OTTER	none	5867.208	129.825		13.693	120.263	133.825	1307.971	193.244	2375.298	58.442	1933.505	13.444
B	2008	r-PEL_TRAWL	BACOMA	1097.852	111.801	30.225	33.551	333.267	152.378	514.04	83.123	203.297	8.969	56.224	0.321
B	2008	r-PEL_TRAWL	none	13.978				0.344		4.129		5.614		4.155	
B	2008	r-TRAMMEL	none	26.346				0.495		7.959		8.789		5.547	
B	2009	GILL	none	1.191	0					0.168		0.479		0.417	
B	2009	OTTER	none	32.578	3.182		0.362	0.148	4.625	5.005	3.548	17	0.234	10.97	
B	2009	PEL_TRAWL	none	412.991	33.326		1.124	0.107	38.693	32.897	47.594	104.731	2.228	100.758	
B	2009	r-GILL	none	7588.386	292.835		23.243	53.549	460.026	1067.241	358.559	2115.902	17.2	1922.201	3.813
B	2009	r-LONGLINE	none	1252.325	90.128		21.322	105.374	175.663	482.876	84.223	315.939	2.416	146.13	
B	2009	r-OTTER	BACOMA	18071.002	2050	24.608	214.257	764.415	2444.938	8085.408	2537.783	8059.779	254.517	2077.616	9.051
B	2009	r-OTTER	NONE	6873.357	151.244		14.288	62.569	163.485	1693.2	234.662	3234.29	62.804	2020.749	13.387
B	2009	r-PEL_TRAWL	BACOMA	2012.943	171.706	3.853	10.833	108.319	116.623	767.399	186.487	740.563	56.472	194.934	5.256
B	2009	r-PEL_TRAWL	none	308.598	0			0.95		49.033		170.878		114.779	
B	2009	r-TRAMMEL	none	68.106	0.017		0.01	0.057	0.038	3.117	0.006	12.824	0.001	14.165	
B	2010	GILL	none	1.239	0			0.096		0.529		0.406		0.086	
B	2010	none	NONE	1.762	0			0.026		0.357		0.882		0.512	
B	2010	OTTER	none	11.147	0			0.696		4.43		4.5		1.291	
B	2010	PEL_TRAWL	NONE	157.856	0			3.547		41.107		70.3		20.911	

Table 5.1.3.5 continued.

B	2010	POTS	NONE	7.641	0			0.557		2.995		2.659		0.728	
B	2010	r-GILL	none	7689.013	705.003		177.973	253.126	1116.061	2120.129	862.49	3008.796	155.164	1164.895	
B	2010	r-LONGLINE	none	1944.818	251.481		26.656	36.294	347.26	609.943	330.796	824.562	23.411	247.46	0.45
B	2010	r-OTTER	BACOMA	21588.374	2122.619	65.397	322.622	2547.409	2648.829	8128.85	2376.654	9014.869	267.432	2220.047	26.163
B	2010	r-OTTER	none	9760.818	250.561		18.519	68.023	238.775	1340.221	378.925	5642.664	155.642	2881.451	35.303
B	2010	r-OTTER	T90	886.7	74.835		16.033	52.274	117.621	348.7	56.324	374.119	4.292	81.793	0.068
B	2010	r-PEL_TRAWL	BACOMA	1636.498	52.489	25.12	13.246	640.654	66.179	284.166	20.418	373.507	12.749	152.341	4.252
B	2010	r-PEL_TRAWL	none	68.759	0			0.113		7.669		40.175		19.32	
B	2011	DEM_SEINE	none	1.047	0					0.116		0.499		0.467	
B	2011	GILL	NONE	9.958	0.008		0.001	1.196	0.015	6.623	0.004	2.383		0.474	
B	2011	none	none	24.109	0					2.295		10.078		10.182	
B	2011	OTTER	none	35.11	2.442		0.684	9.932	4.942	18.008	0.444	6.439		3.614	
B	2011	PEL_TRAWL	none	315.033	23.03		6.17	65.576	45.859	221.601	4.965	54.202	0.003	13.505	
B	2011	POTS	NONE	2.7	0.018		0.008	0.404	0.037	1.74	0.003	0.605		0.136	
B	2011	r-DEM_SEINE	none	90.22	0					5.302		33.668		39.649	
B	2011	r-GILL	none	5286.507	236.378		96.528	479.616	452.983	2238.068	64.431	1758.594	1.373	835.401	1.46
B	2011	r-LONGLINE	none	1599.647	51.296		10.867	184.969	93.202	766.693	26.228	509.38	0.481	195.642	0.166
B	2011	r-OTTER	BACOMA	20021.413	2558.339	32.275	265.977	3984.485	3974.896	11338.989	1873.155	5566.181	107.323	1881.638	11.86
B	2011	r-OTTER	none	10126.845	10.411		0.5	11.88	6.27	1360.414	14.97	4387.543	8.3	4289.898	2.21
B	2011	r-OTTER	T90	1145.247	189.755		11.262	168.884	298.37	952.816	141.353	215.263	0.117	23.276	
B	2011	r-PEL_TRAWL	BACOMA	3168.744	601.783	98.319	145.229	1353.813	877.697	1989.028	432.264	415.142	9.413	48.846	0.165
B	2011	r-PEL_TRAWL	none	56.019	0					3.17		22.834		27.418	
B	2011	r-PEL_TRAWL	T90	23.938	7.493		0.049	2.451	10.979	20.953	6.589	4.96	0.004	0.401	
B	2011	r-TRAMMEL	none	1.485	0			0.002		1.101		0.136		0.124	
C	2010	r-GILL	NONE	41.097	1.25		1.544	0.372	2.075	2.209	0.515	7.634	0.032	3.673	
C	2011	r-GILL	NONE	59.892	3.427		0.713	0.363	6.826	7.114	1.235	8.473	0.001	4.574	0.01
A	2010	r-OTTER	FDFBAL	263.837				46.612		132.395		79.579		27.217	
A	2010	r-PEL_TRAWL	FDFBAL	7.859				3.351		3.377		1.734		0.538	
A	2011	r-DEM_SEINE	FDFBAL	56.336	0			0.191		8.397		23.65		9.376	
A	2011	r-OTTER	FDFBAL	620.265	0			9.77		151.017		284.055		99.842	
B	2010	PEL_TRAWL	FDFBAL	1.741				0.002		0.162		0.92		0.473	
B	2010	r-OTTER	FDFBAL	724.89				5.708		105.847		458.648		219.987	
B	2010	r-PEL_TRAWL	FDFBAL	18.544				0.014		2.229		11.237		3.854	
B	2011	DEM_SEINE	FDFBAL	1.047	0					0.116		0.499		0.467	
B	2011	PEL_TRAWL	FDFBAL	0.023	0					0.007		0.009		0.007	
B	2011	r-OTTER	FDFBAL	1633.044	0			2.512		271.619		767.627		684.895	

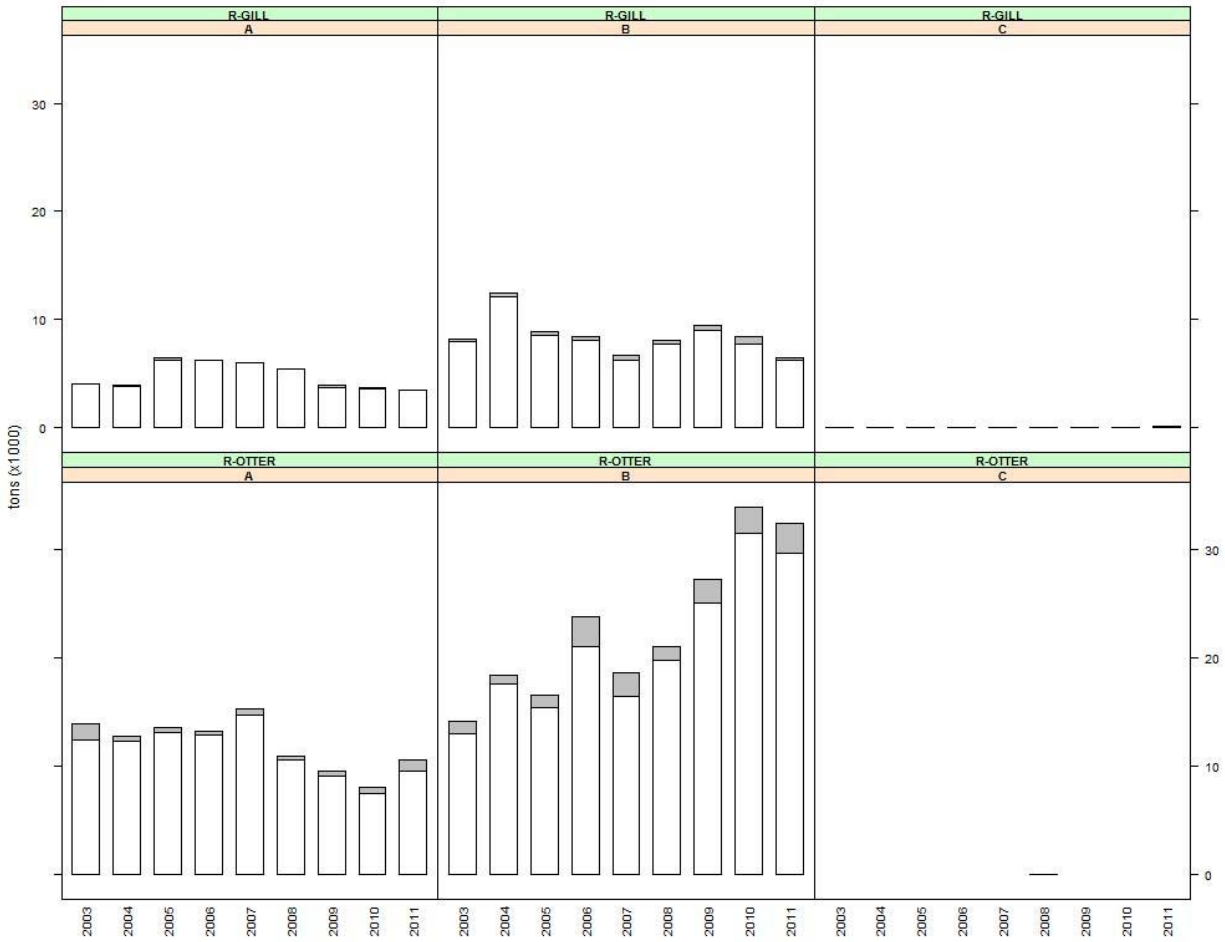


Figure 5.1.3.1 Catch and landings in tonnes of Baltic cod by sub-area and gear category 2003-2011. White bars show landings, grey bars discards. An “r” in front of the gear type indicates regulated gears in accordance with R(EC) 1098/2007 (see section 2.6).

5.1.4 Tor 1.d Catches (landings and discards) of non-cod species in weight and numbers at age by area, Member State and fisheries

Table 5.1.4.1 Major non-cod species caught at ages 1-9 (thousands) in landings, discards and discard rates in the Baltic by area, gears (r- indicates regulated gears).

ANNEX	REG_AREA	SPECIES	Year	REG_GEAR	SPECON	LANDINGS t	DISCARDS t	AGE 0 L	AGE 0 D	AGE 1 L	AGE 1 D	AGE 2 L	AGE 2 D	AGE 3 L	AGE 3 D	AGE 4 L	AGE 4 D	AGE 5 L	AGE 5 D	AGE 6 L	AGE 6 D	AGE 7 L	AGE 7 D	AGE 8 L	AGE 8 D	AGE 9 L	AGE 9 D	AGE 10 L	AGE 10 D	AGE 11 L	AGE 11 D
Bal	28.2	HER	2003	PEL_TRAWL	none	2011.695				10362.034		8871.71		18045.98		13616.257		4952.822		6647.621		2231.899		2491.36		1597.393		1799.819			
Bal	28.2	HER	2004	PEL_TRAWL	none	2167.531				1447.266		15370.149		16222.357		20185.116		9800.578		6639.821		3581.463		2311.151		1527.189		2211.596			
Bal	28.2	HER	2005	PEL_TRAWL	none	3941.037				5735.18		14794.277		45593.994		31306.21		25270.378		8307.006		7458.276		3082.766		2214.732		2299.296			
Bal	28.2	HER	2006	PEL_TRAWL	none	3391.081				4941.141		10829.861		21291.123		40475.83		16772.204		13380.328		6594.945		1862.341		764.618		2225.198			
Bal	28.2	HER	2007	PEL_TRAWL	none	3167.969				1002.02		6541.601		5971.057		18318.858		26106.256		14199.928		8386.447		4639.046		1524.972		2582.207			
Bal	28.2	HER	2008	PEL_TRAWL	none	3796.644				2975.967		13975.247		23830.344		13934.836		19707.233		24783.223		7692.623		4619.045		1651.843		3904.604			
Bal	28.2	HER	2009	PEL_TRAWL	none	3250.514				1924.424		24800.167		18055.817		23862.142		10586.049		12255.515		10284.883		3232.386		1258.114		997.525			
Bal	28.2	HER	2010	PEL_TRAWL	none	3700.155				1049.412		5217.563		16266.501		12018.416		18474.047		14417.069		10168.023		13267.513		3520.469		4053.624			
Bal	28.2	HER	2011	PEL_TRAWL	NONE	3168.367				1328.844		4535.096		14360.566		11474.644		13772.696		9474.058		4979.445		3345.433		3779.766		1384.406		66.641	
Bal	28.2	SPR	2003	PEL_TRAWL	none	30723.511		47131.18		684129.569		710218.483		305724.563		758213.516		53574.181		424734.278		64941.442		236063.208							
Bal	28.2	SPR	2004	PEL_TRAWL	none	38940.177		2029.594		1343145.463		1815783.681		667162.605		234280.964		519462.671		54134.48		256970.248		197595.959							
Bal	28.2	SPR	2005	PEL_TRAWL	none	58364.978		70337.613		219671.376		4864605.092		1632252.676		480063.075		154359.43		104628.229		69670.109		105994.143							
Bal	28.2	SPR	2006	PEL_TRAWL	none	49090.726		3565.385		715061.038		949710.207		3739640.499		610211.489		159615.494		44389.82		42592.183		55724.185							
Bal	28.2	SPR	2007	PEL_TRAWL	none	47833.613		8882.29		904526.386		1413745.799		302683.352		2019991.601		439587.009		137968.742		34535.507		79716.926							
Bal	28.2	SPR	2008	PEL_TRAWL	none	50089.909		46350.003		891490.606		2062727.754		1027137.524		151182.676		881846.413		191475.782		28502.81		27097.513							
Bal	28.2	SPR	2009	PEL_TRAWL	none	38131.211		11212.103		1207183.351		856338.417		1022451.341		391953.034		72248.237		332991.421		92065.549		52192.373							
Bal	28.2	SPR	2010	PEL_TRAWL	none	36039.748		97909.794		247420.74		2366902.148		486147.225		415731.124		157903.928		74797.673		136083.794		48298.549							
Bal	28.2	SPR	2011	PEL_TRAWL	NONE	23371.374		65233.765		368178.507		263342.474		1348382.959		282858.437		116322.699		71836.761		24830.505		70621							
Bal	A	FLE	2005	r-OTTER	none	383.469	36.907					118.559	88.301	402.261	52.315	326.732	9.411	71.946		10.87		3.15							
Bal	A	FLE	2008	r-GILL	none	836.939	559.405				0.019	20.558	76.651	419.003	807.358	674.702	856.067	667.544	301.843	323.079	47.08	112.993	19.572	38.23		20.595		0.63		0.114	
Bal	A	FLE	2008	r-OTTER	BACOMA	2754.444	664.414				15.308	155.994	424.004	2565.574	1521.577	3418.23	770.486	2080.998	367.582	636.844	102.987	561.231	19.598	54.457	6.491	19.685	1.362	4.502	0.295	2.253	0.449
Bal	A	FLE	2008	r-TRAMMEL	none	36.344						0.147		7.781		25.427		29.905		14.441		4.098		1.962		1.06		0.543		0.091	
Bal	A	FLE	2009	POTS	none	0.017						0.184		0.023																	
Bal	A	FLE	2009	r-GILL	none	844.632	466.936				0.017	4.713	18.02	647.541	842.155	2017.335		1132.099	352.734	342.704	34.179	128.967	10.391	40.655	9.167	23.638	0.019	11.327		5.265	0.418	1.129	
Bal	A	FLE	2009	r-OTTER	BACOMA	2584.378	1084.23				4.266	8.021	320.268	2776.286	3202.319	3578.057	1390.369	1104.749	220.038	398.752	64.356	130.283	26.486	67.402	6.039	23.42	1.337	4.753	0.039	2.066	0.239
Bal	A	FLE	2009	r-TRAMMEL	none	36.012	0.567					0.117	0.473	13.34	2.087	36.175	0.433	20.327	0.033	8.368	0.017	2.988	0.017	1.475		0.713		0.271		0.054	
Bal	A	FLX	2010	r-GILL	none	121.159	34.111			0.386	10.759	44.923	106.118	191.015	91.873	120.016	14.899	24.89	0.735	9.917	0.599	3.878		1.131		0.304		0.129			
Bal	A	FLX	2010	r-OTTER	BACOMA	230.784	163.123			0.677	12.769	74.116	220.742	317.133	357.417	214.922	138.413	62.308	22.49	28.532	9.455	14.019	3.757	6.866	2.054	2.92	0.856	1.35	0.396	0.364	
Bal	A	FLX	2011	r-GILL	NONE	530.563	18.851					88.11		917.211		433.061		132.51		38.808		48.137		14.002		23.25		4.477		18.282	
Bal	A	FLX	2011	r-OTTER	BACOMA	2190.83	413.68				212.363	1438.302	1778.406	5630.007	524.676	782.063		211.24		33.296		105.934		73.888		5.544					
Bal	A	HER	2003	GILL	none	2438.119						1.067		25.322		1095.232		3486.185		2367.661		3007.043		1750.381		506.547		119.62		31.59	
Bal	A	HER	2003	none	none	872.55				11.161		319.142		1296.457		2894.931		2106.758		484.689		115.03		51.108		1.534		0.268		0.041	
Bal	A	HER	2003	OTTER	none	5473.046						266.315		1841.152		11334.26		16371.6		5291.541		3133.301		1570.237		199.811		52.033		8.359	
Bal	A	HER	2003	PEL_TRAWL	none	17958.783				3416.379		5805.677		18042.7		47734.701		50269.617		14451.643		7836.501		4021.119		613.867		159.722		29.842	
Bal	A	HER	2004	GILL	none	6132.627						4.245		468.937		2538.276		11650.943		12438.823		4038.678		1814.876		892.904		178.711			
Bal	A	HER	2004	OTTER	none	2092.66				881.708		896.581		5425.733		10455.272		5212.569		2096.636		452.914		46.714		17.407		0.311			
Bal	A	HER	2004	PEL_TRAWL	none	17120.31				4310.238		3342.773		15236.061		36950.104		41231.648		28790.897		8437.106		2113.32		828.846		195.923			
Bal	A	HER	2005	PEL_TRAWL	none	16570.109				2515.782		9602.75		53654.361		43076.363		14424.664		9470.044		7470.004		1985.641		651.449		485.57			
Bal	A	HER	2007	OTTER	none	5968.993				28172.185		42651.172		23109.215		8456.412		3454.941		4015.716		985.807		820.764				176.201			
Bal	A	HER	2007	PEL_TRAWL	none	5052.447				65261.449		23139.534		24259.156		7414.971		2648.156		1968.433		986.238		271.485				107.112			
Bal	A	HER	2007	r-OTTER	BACOMA	0.002				0.104		0.005																			
Bal	A	HER	2008	GILL	none	8068.662				87.678		779.521		4017.502		7988.718		15917.385		9969.072		3585.083		2871.901		1391.393		712.599		250.734	
Bal	A	HER	2008	OTTER	none	8897.219				402752.618		31267.528		14395.786		6046.269		1947.383		1089.449		199.724		104.529		19.384		6.548		1.369	
Bal	A	HER	2008	PEL_TRAWL	none	19685.122				14095.361		23994.601		48292.134		45510.237		32687.565		14355.552		4690.764		3255.664		1162.138		507.073		226.415	
Bal	A	HER	2008	r-GILL	none	6.303				0.006		0.317		1.997		5.027		10.976		7.143		2.75		2.377		1.164		0.548		0.18	
Bal	A	HER	2009	GILL	none	6670.985				8.199		481.405		1869.464		6293.282		10056.179		10349.944		4950.543		1544.015		765.417		461.777		108.549	
Bal	A	HER	2009	OTTER	none	5396.287	384.27			22207.177	17725.304	30292.75	4283.62	6807.911	44.721	4445.985	193.822	5043.094		5077.604		2349.553		757.192		311.083		231.64		50.408	
Bal	A	HER	2009	PEL_TRAWL	none	15851.194	0			6345.011		24252.26		90270.06		27825.382		20807.726		15336.835		6387.074		2145.107		902.675		429.275		109.12	
Bal	A	HER	2009	POTS	none	289.523				14.058		355.661		641.871		728.332		476.231		272.271		95.729		34.155		10.001		2.331		0.391	
Bal	A	HER	2009	r-GILL	none	12.175	1.004					0.994		3.094		9.612		15.026		16.794		8.507		2.871		1.768		1.126		0.331	
Bal	A	HER	2010	GILL	none	4976.705	0			1.094		21.243		1071.472		3875.053		4634.406		5426.509		4028.087		2512.968		871.543		412.201		121.575	
Bal	A	HER	2010	OTTER	none	3526.446	489.12			20135.359		22917.158		10684.527		4811.366		2804.527		1411.826		1167.105		767.445		283.797		96.899		37.488	
Bal	A	HER	2010	PEL_TRAWL	none	8180.123				14792.873		12687.881		17096.489		12672.044		9502.304		5676.762		3757.447		2397.491		931.117		394.178		117.604	
Bal	A	HER	2011	GILL	NONE	3468.626	0					18.915		260.671		2568.136		3636.966		4842.329		3724.097		2050.746		881.279		266.645		133.234	
Bal	A	HER	2011	OTTER	NONE	1640.661	0			27907.047		4742.922		2721.736		3820.862		1462.759		1257.756		921.665		444.575		163.48		55.689		22.233	
Bal	A	HER	2011	PEL_TRAWL	NONE	8065.829	0			2811.915		10316.588		9484.427		15849.667		9694.972		8703.301		4871.233		2321.444		856.677		283.951		129.002	
Bal	A	HER	2011	POTS	NONE	257.515	0			0.018		46.192		104.491		1554.053		448.705		212.021		104.025		91.273		0.365		0.224		0.053	
Bal	A	PLE	2004	r-OTTER	none	0.004	0.029						0.04		0.07		0.03		0.01		0.01										
Bal	A	PLE	2006	r-OTTER	none	4.017	20.287				0.16		22.84		37.22		17.45		6.94		2.39		1.13		0.44		0.14		0.09		0.05
Bal	A	PLE	2008	r-GILL	none	253.514	168.724				14.678	67.086	407.764	324.595	608.22	339.933	79.967	60.808	5.103	16.609	2.643	5.77									
Bal	A	PLE	2008	r-OTTER	BACOMA	248.599	131.872				6.687	75.324	295.14	456.565	499.475	250.368	86.418	91.517	17.132	46.287	4.174	12.846		6.776	0.305						
Bal	A	PLE	2008	r-TRAMMEL	none	104.412						5.059		40.292		62.027		64.304		60.733		4.445		4.706							
Bal	A	PLE	2009	r-GILL	none	197.652	5.59					0.064	0.562	12.687	8.454	76.704	12.375	114.186	1.226	75.609	0.013	47.175		29.625		6.054		3.22		3.22	
Bal	A	PLE	2009	r-OTTER	BACOMA	253.476	77.347				1.532	5.071	144.712	128.559	300.596	363.443	110.617	132.069	11.216	49.292	3.009	31.432	0.381	15.389	0.267	6.997		0.526		0.455	
Bal	A	PLE	2009	r-TRAMMEL	none	90.21	0.023							18.104		113.147		40.729		2.249											
Bal	A	PLE	2010	r-OTTER	BACOMA	0.842	0			0.004		0.257		1.551		1.374		0.23		0.037		0.012		0.003		0.007					
Bal	A	PLE	2010	r-OTTER	none	0.422	3.691				3.4		9.87		5.13		1.18		0.33		0.07		0.05		0.01						0.02
Bal	A	PLE	2011	r-DEM_SEINE	none	0.026	1.843				0.02		2.66		1.87		1.35		0.24		0.04		0.01								
Bal	A	PLE	2011	r-OTTER	none	0	0.891				0.16		3.52		1.04		0.35		0.07		0.01										
Bal	A	SPR	2003	OTTER	none	569.645				6414.753		12151.912		8494.512		2061.334		1924.156		1013.688		263.455		257.956							
Bal	A	SPR	2003	PEL_TRAWL	none	2069.45				41513.847		61128.308		36846.217		6218.105		7085.505		2536.174		743.758		1283.292							
Bal	A	SPR	2004	OTTER	none	1842.331				167534.26		20045.212		11441.954		6475.569		2179.707		377.035											
Bal	A	SPR	2004	PEL_TRAWL	none	13290.163				1805426.605		116647.463		66525.06		35326.332		18469.471		696.234											
Bal	A	SPR	2007	OTTER	none	4242.128				211433.373		55600.659		36008.228		91968.726		23170.66		1630.89		1952.436		1128.876		701.575					
Bal	A	SPR	2007	PEL_TRAWL	none	1631.39				123816.373		40927.191		10918.595		23303.058		4473.468		771.232		352.42		116.995		130.561					
Bal	A	SPR	2007	r-OTTER	BACOMA	0.03				0.379		0.454		0.371		0.934		0.224		0.019		0.021		0.009		0.008					
Bal	A	SPR	2008	OTTER	none	3402.927				5903.733		71270.997		48587.532		49932.895		40980.655		5286.729		3200.246		1103.034							
Bal	A	SPR	2008	PEL_TRAWL	none	4093.215				7099.583		93477.474		60051.793		50628.47		46579.776		8277.996		3105.368		868.2							
Bal	A	SPR	2009	OTTER	none	2480.522	32.969			15370.069	926.624	33152.059	804.558	69272.472	603.474	19029.601	228.448	20702.275	154.957	6471.447	63.688	2151.728	13.637	375.272		588.032	6.018				
Bal	A	SPR	2009	PEL_TRAWL	none	7024.67	0			104457.577		86442.21		183716.13		30197.443		56751.022		18308.744		6429.227		1124.624		1995.7					
Bal	A	SPR	2011	PEL_TRAWL	NONE	668.86	0			3808.802		6822.74		22074.53		6855.863		2368.09		1030.166		1440.732									
Bal	A	WHG	2008	r-DEM_SEINE	none	0.076	0.613		4.25		5.02		0.63		0.03																
Bal	A	WHG	2009	r-DEM_SEINE	none	0.012	0.259		1.8		2.12		0.27		0.01																
Bal	A	WHG	2011	r-DEM_SEINE	none	0	0.112				0.08		0.18		0.47																
Bal	B	FLE	2005	r-PEL_TRAWL	none	0.025	0.007						0.002	0.008	0.019	0.016	0.024	0.007	0.008	0.001	0.002										
Bal	B	FLE	2008	r-OTTER	BACOMA	692.854	1526.928					28.528	751.932	391.254	5764.811	570.59	1754.508	476.849	501.288	232.308		77.435		44.83		32.604		8.151		0	
Bal	B	FLE	2009	r-OTTER	BACOMA	16.75.801	264.796				1.637	21.094	76.173	1065.777	779.646	1611.092	425.069	885.353	91.924	500.729	29.106	219.934	7.99	91.998	2.074	23.438	0.359			2.684	
Bal	B	FLX	2010	r-OTTER	BACOMA	39.754	202.666			0.048	3.014	8.096	179.682	51.504	462.403	46.07	225.485	15.583	38.484	6.595	17.299	3.242	5.958	1.172	2.309	0.394	0.766	0.318	0.3		
Bal	B	FLX	2011	r-GILL	none	281.98	55.099					0.061		3.017		36.073		36.916		43.579		51.384		244.798		189.772		173.337		0.104	
Bal	B	FLX	2011	r-LONGLINE	none	2.64	0											0.114		0.274		0.449		1.1		0.664		0.425		0.458	
Bal	B	FLX	2011	r-OTTER	BACOMA	4614.315	7262.101			0.085		119.519	6.229	2306.506	4300.121	5424.591	43422.209	1895.63	3620.589	1675.331	582.342	1476.385	826.964	1275.238	871.27	670	418.68	448.063	119.975	36.085	3.851
Bal	B	HER	2009	PEL_TRAWL	NONE	21674.458	0	39171.374		84129.116		367687.616		113971.933		230405.516		66180.43		17204.111		58135.253		5837.575		11426.666		9665.406			
Bal	B	HER	2010	OTTER	none	2003.591	0			1344.123				12396.218		8363.704		4928.548		1974.136		1974.136		1941.623		1194.856		896.178			
Bal	B	HER	2010	PEL_TRAWL	none	42627.251	0	5947.599		91612.835		173261.458		418420.093		149972.238		340766.569		102189.039		53878.243		122979.205		22477.392		52706.893			
Bal	B	HER	2011	GILL	NONE	90.41	0							12.055		85.136		239.587		185.34		42.191		41.438							
Bal	B	HER	2011	PEL_TRAWL	none	35859.491	190.944	10531.449		56348.751	14623.796	288104.179	766.088	255283.073		428746.81		154085.811		174200.65		67242.89		57218.216		54484.677		25179.325		10453.314	
Bal	B	PLE	2005	r-OTTER	none	6.704	81.814				10.69		230.5		117.5		11.18		0.06												
Bal	B	PLE	2008	r-OTTER	BACOMA	43.364	3.615				0.042	9.882	4.264	67.571	9.917	45.331	3.124	18.374	0.895	8.788	0.437	2.036	0.039	1.441	0.022						
Bal	B	PLE	2009	r-OTTER	BACOMA	45.026	71.209				0.384	1.451	58.87	29.036	186.532	100.048	141.535	15.736	18.886	3.003	3.23	1.233	1.742	0.731	1.29	0.176		0.038		0.038	
Bal	B	PLE	2009	r-OTTER	none	0.054	0.285						0.1		0.78		0.56		0.06		0.01										
Bal	B	PLE	2010	r-OTTER	BACOMA	23.777	34.02				2.139	3.103	22.86	34.582	43.891	46.57	50.43	9.903	16.173	1.964	4.174	0.899	1.595	0.245	0.663	0.306	0.398	0.086	0.092		
Bal	B	PLE	2011	r-OTTER	BACOMA	3.878	27.542				9.539	1.948	47.492	6.071	43.867	4.074	28.004	1.232	13.195	0.196	1.017	0.06		0.158		0.075		0.015			
Bal	B	PLE	2011	r-OTTER	none	0.021	0.87				0.43		4.27		1.26		0.45		0.12		0.02										
Bal	B	SPR	2003	PEL_TRAWL	none	97219.844		115436.039		2425580.055		2140986.498		1057345.132		2558003.122		195185.664		1455958.651		227601.497		810668.032							
Bal	B	SPR	2004	PEL_TRAWL	none	198018.528		3482.836		2972547.721		7052836.514		3412604.809		1752997.524		4290967.354		348746.073		2027783.206		1578627.744							
Bal	B	SPR	2005	PEL_TRAWL	none	195796.709		80690.748		272393.028		18159838.52		5102444.686		1606955.44		618636.336		463907.871		325746.524		417729.144							
Bal	B	SPR	2006	PEL_TRAWL	none	168592.625		5914.521		1197625.181		3911875.998		13444513.44		2340450.841		541566.796		167685.567		186146.38		223065.571							
Bal	B	SPR	2007	PEL_TRAWL	none	171427.104		31311.685		3124120.355		5689340.121		1128932.63		9429845.13		2131081.31		363914.073		149442.905		245268.019		347.148					
Bal	B	SPR	2008	PEL_TRAWL	none	44507.497		688246.651		1020916.304		1973455.075		571360.201		1544221.671		444151.771		123027.431		26802.38		12102.396							
Bal	B	SPR	2009	OTTER	none	14919.464				501622.815		194302.837		408094.64		84946.715		98776.391		35304.136		14045.476		2671.762		4331.13					
Bal	B	SPR	2009	PEL_TRAWL	none	216007.337	0	45486.268		10212518.95		5510371.783		5515136.904		1779981.875		529564.231		1705710.019		451180.823		181920.437		1969.374					
Bal	B	SPR	2010	PEL_TRAWL	none	179776.418	0	557614.29		971956.67		12156757.99		2974568.218		2805915.703		991027		182187.575		741351.892		352966.7		30534.073					
Bal	B	SPR	2011	PEL_TRAWL	NONE	56313.617	1	8051.038		1334058.218		1768473.417		2615624.25		488158.174		193311.1		47389.396		40378.353		21839.42		1671.079		1442.261			
Bal	B	WHG	2009	r-OTTER	none	0.005	0.05						0.01		0.09		0.03														
Bal	B	WHG	2011	r-OTTER	none	0	0.253						0.03		0.29		0.13														
Bal	C	HER	2003	POTS	none	4024.78	6.82			117.721		5156.167		1224.295		12811.021		1016.41		574.664		5141.879		3283.933		56665.216		6107.54		2641.123	
Bal	C	HER	2004	POTS	none	4059.558	2.87			4		13265.416		28947.838		15220.693		14153.673		12254		14167.62		17241.603		2727.603		2908		1236	
Bal	C	HER	2005	POTS	none	2158.56	0.82	538.457				6591.589		26083.123		12887.529		24534.808		2923.479		8211.963		2195.082		999.848		525.446		834.708	
Bal	C	HER	2006	POTS	none	2288.609	0.149					1639		2205		24727		15086		7502		8196		8034		1387		1546		3077	
Bal	C	HER	2007	POTS	none	2818.022	6.229					19151.51		25250.319		9670.4		36419.625		14283.964		4515.504		2850.952		1395.313		378.183		736.496	
Bal	C	HER	2008	POTS	none	2850.587	0.385	76.664		689.976		1891.044		1950.672		545.166		289.619		16306.127		8288.51		18001.323		22735.06		2443.11		1017.963	
Bal	C	HER	2009	PEL_TRAWL	none	18433.788	0	531.559		83356.316		257725.393		82854.027		246088.437		52813.431		21476.799		114006.541		9636.882		12804.371		7498.279			
Bal	C	HER	2009	POTS	none	2256.818	1.358			72.257		17141.177		24527.373		21235.881		3890.66		1398.919		7393.071		4094.467		4875.689		651.973		1998.742	
Bal	C	HER	2010	PEL_TRAWL	none	19152.189	0	6181.857		39490.168		110323.795		289145.333		59279.99		216346.185		59780.051		10768.354		50224.216		2329.127		17894.706			
Bal	C	HER	2011	PEL_TRAWL	NONE	19311.112	0	156477.091		80823.449		120424.486		212705.108		258199.044		78327.559		75062.245		22621.792		9939.71		18717.619		5606.967			
Bal	C	SPR	2007	PEL_TRAWL	none	83891.478		218847.558		2871300.831		2798726.237		232442.653		2290284.261		515879.365		44353.288		43608.768		51981.226							
Bal	C	SPR	2008	PEL_TRAWL	none	68107.162		440460.639		2175450.651		3310869.717		766450.472		283811.764		1135430.179		496389.822		32414.601		78325.287							
Bal	C	SPR	2009	PEL_TRAWL	none	75061.933	0	21557.3		3718705.352		1803332.51		1791639.424		627252.564		316109.175		1013281.358		236083.716		217912.143		171.344					
Bal	C	SPR	2010	PEL_TRAWL	none	66389.128	0	164016.846		269792.69	3	4906884.894		1563974.321		1105092.428		375204.78		218697.178		325517.126		174539.428							
Bal	C	SPR	2011	PEL_TRAWL	NONE	39201.708	0	365955.754		1655729.221		393554.313		1823273.502		483881.715		176433.966		116431.55		55949.286		111674.847							

5.1.5 ToR 1.e CPUE and LPUE of cod by area, fisheries and Member State

Although it was explicitly asked to analyse CPUE and LPUE time series of Baltic cod for gear categories which are in accordance with Council Regulation (EC) 2187/2005 only, the STECF EWG used the categories from the cod management plan to be consistent within the report and to provide respective advice.

The Tables 5.1.5.1, 5.1.5.2 and Figures 5.1.5.1-5.1.5.2 provide data on CPUE and LPUE by year and derogation as well as aggregated over countries. The CPUE figures in the table should only be considered indicative since estimated discard ratios depend on sampling intensity.

CPUEs and LPUEs were in general higher for otter trawls, demersal seines and pelagic trawls compared to gill nets. CPUES and LPUES varied considerably between countries. CPUE and LPUE aggregated over countries and years showed a generally increasing trend in Areas A -C, although CPUEs and LPUEs showed some inter-annual variability. In area B CPUEs and LPUEs decreased somewhat in 2011. The relatively strong increase in CPUE and LPUE values in Areas B and C in the most recent years can be explained by the dynamics of Eastern Baltic cod stock (ICES, 2012;Tables 3.4.2.1 and 3.4.2.2).

The updated information on CPUE and LPUE by area, gear and Member States, made available to EWG during its follow-up meeting in September 2012 can be found on STECF website in the Appendix 4 (http://stecf.jrc.ec.europa.eu/web/stecf/ewg12). Analysis of CPUE and LPUE data broken down by area, gear and Member State revealed that the temporal dynamics of respective CPUE and LPUE values was rather similar. Below only the CPUE values from Baltic cod fishery by country and effort-regulated gears are considered.

Gillnet fishery (R- GILL) CPUE (g/kW*days) of cod in r-gill gear fisheries by Member States, areas combined (Figure 5.1.5.3): In general, the cod CPUE values in the effort-regulated gillnet fishery did not reveal any clear trend in most of the Member States and fluctuated around 5900 (DNK), 4200 (SWE) and 2700 g/kW*days (DEU) average values respectively during the period. The POL CPUE index has increased from 2606 g/kW*days in 2004 up to 7375 g/kW*days in 2011. The CPUE index of LAT exceeded the values of the rest of Member States in 2004-2011 (average CPUE index value 10200 g/kW*days, peaking at 15339 g/kW*days in 2010).

Effort-regulated otter-trawl fishery (R-OTTER) CPUE (g/kW*days) of cod in r-otter gear fisheries by Member States, areas combined (Figure 5.1.5.4): The overall CPUE trend in effort-regulated otter trawl fishery has been increasing. The CPUE index of DNK increased 2.3 times from 7155 up to 16273 g/kW*days in 2004-2010, decreasing to 14019 g/kW*days in 2011. The DEU CPUE index was also increasing reaching maximum value of 28063 g/kW*days in 2008 but then decreased to the level of 2006-2007. The LVA CPUE index was fluctuating significantly over the period, reaching 27408 g/kW*days in 2010 but decreasing dramatically by 3.5 times to 7810 g/kW*days in 2011. The SWE CPUE index has increased significantly in 2009 compared to the values of 2004-2008, peaking at 29667 g/kW*days value in 2010. The SWE CPUE index values were the biggest comparing with others Member States in 2009-2011. The POL CPUE increased by almost 10 times since 2004 until 2011. Particularly big increase was observed in 2010-2011.

Analyses of Cod CPUE by country have shown (FigureS 5.1.5.3 and 5.1.5.4) that overall average CPUE of r-otter trawl fisheries has been almost twice bigger than that of r-gillnet fisheries CPUE in 2004-2011 period. The maximum value of overall average of r-otter fisheries CPUE was reached in 2009 and that of r-gillnet fisheries in 2010 but decreased in following years. From 2004, the overall average of r-gill fisheries CPUE increased 1.7 times from 4266 value up to 7419 value in 2009. From 2004 the overall average of r-otter trawl fisheries CPUE increased 2.9 times from 5796 g/kW*days up to 17009 g/kW*days value in 2010.

Analyses of CPUE dynamics by areas A and B (Figure 5.1.5.5.) show that CPUE (g/kW*days) of cod in r-otter gear fisheries in area B was 1.7 times higher at average than in area A. It also can indicate at recently increased stock abundance causing the higher fishing efficiency in area B compared to the area A in 2004-2011.

Table 5.1.5.1 Baltic: Cod CPUE (g/KW*days) by derogation, and year, 2004-2011 for areas A, B, C and 28.2.

REG AREA COD	REG GEAR COD	SPECON	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	CPUE 2009-2011
28.2	GILL	none	0	0	0	0	0	0	0	0	0
28.2	OTTER	none		0	0		0	0	0	0	0
28.2	PEL_TRAWL	none	13	2	3	7	3	0	1	2	1
28.2	r-GILL	none	1912	2481	1740	2087	2542	2549	1594	2044	1995
28.2	r-OTTER	BACOMA	1966	2330	2620	1559	1674	6131	2467	1109	2826
28.2	r-PEL_TRAWL	BACOMA	0				0	0	0	0	0
A	BEAM	none	0					0	2262	3394	277
A	DEM_SEINE	none	0	0	348	0		0	0	0	0
A	DREDGE	none						0	0	0	0
A	GILL	none	124	322	213	202	46	26	26	24	26
A	none	none	31881	2896	4472	804	442	185	463	526	334
A	OTTER	none	92	200	235	152	183	121	237	230	187
A	PEL_TRAWL	none	88	177	197	148	98	63	102	104	85
A	POTS	none	28	1175	384	716	306	287	470	316	359
A	r-BEAM	BACOMA	0	0	0	0	2327	0	0	0	0
A	r-BEAM	none	0	0	0	0	0	0	0	0	0
A	r-DEM_SEINE	BACOMA	0	0	2177	3789	6510	4583	5354	5077	4800
A	r-DEM_SEINE	none	3496	4297	5555	6551	6731	4963	5115	7058	5449
A	r-GILL	none	1766	1768	1798	1877	1800	1613	1755	1810	1718
A	r-LONGLINE	none	2035	2240	1793	2496	1727	1454	1894	2458	1909
A	r-OTTER	BACOMA	2544	1721	3320	3337	2923	3024	3263	4292	3526
A	r-OTTER	none	2499	2632	3069	3707	3212	3628	3721	4884	4024
A	r-OTTER	T90	0	0	0	0	0	0	2195	5229	4158
A	r-PEL_TRAWL	BACOMA	1568	904	3305	5758	1441	0	3333	2992	3107
A	r-PEL_TRAWL	none	1872	2929	3658	2882	2473	8382	4240	0	5017
A	r-TRAMMEL	none	1183	1198	1388	1194	1125	706	1035	1273	971
A	TRAMMEL	none	1566	1283	669	1278	470	0	396	0	93
B	DEM_SEINE	none			0			0	0	90	55
B	DREDGE	none	0	0	0	0	4525	0	0	0	0
B	GILL	none	246	185	385	339	57	19	14	89	50
B	none	none	114172	2956	5891	1096	1038	323	470	3145	1237
B	OTTER	none	81	103	65	33	31	44	15	70	41
B	PEL_TRAWL	none	44	26	25	37	36	48	56	33	45
B	POTS	none	0	0	3	0	5	85	52	18	55
B	r-DEM_SEINE	BACOMA	0	0	5699	6444	12079	17195	8659	9448	10990
B	r-DEM_SEINE	none	588	10313	8384	10046	0	0	0	11341	11341
B	r-GILL	none	1652	1793	1992	1975	2765	4045	4227	3652	3991
B	r-LONGLINE	none	2989	2699	2934	2977	3095	1929	3348	2682	2638
B	r-OTTER	BACOMA	1818	1958	2532	3311	4128	7505	7791	6905	7383
B	r-OTTER	none	3545	3509	4843	7918	8473	10872	10722	8719	9908
B	r-OTTER	T90	0	0	0	0	0	9333	6952	5661	6218
B	r-PEL_TRAWL	BACOMA	1767	1240	2689	3209	1423	6480	8630	3995	5181
B	r-PEL_TRAWL	none	8421	4932	13942	67132	13861	12358	12830	2316	7496
B	r-TRAMMEL	none	880	439	473	2422	2579	3979	2660	952	3486
B	TRAMMEL	none	0	0	0	44	0	0	0	0	0
C	GILL	none	0	1	0	0	0	0	1	1	1
C	OTTER	none	0	0	14			0	0	0	0
C	PEL_TRAWL	none						0	0	0	0
C	POTS	none	0	0				0	0	0	0
C	r-GILL	none	133	107	104	161	213	556	585	1079	724
C	r-LONGLINE	none	0	0	0	0	0	0	0	0	0
C	r-OTTER	BACOMA	0	0	0	0	463	0	0	0	0

Table 5.1.5.2 Baltic: Cod LPUE (g/KW*days) by derogation and year, 2003-2011 for areas A, B, C and 28.2

REG AREA COD	REG GEAR COD	SPECON	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
28.2	GILL	none	0	0	0	0	0	0	0	0	0
28.2	OTTER	none		0	0		0	0	0	0	0
28.2	PEL_TRAWL	none	13	2	3	7	3	0	1	2	1
28.2	r-GILL	none	1912	2432	1702	1953	2480	2549	1594	2044	1995
28.2	r-OTTER	BACOMA	1955	2330	2620	1559	1674	6131	2467	1109	2826
28.2	r-PEL_TRAWL	BACOMA	0				0	0	0	0	0
A	BEAM	none	0					0	2262	3394	277
A	DEM_SEINE	none	0	0	348	0		0	0	0	0
A	DREDGE	none						0	0	0	0
A	GILL	none	124	317	213	202	46	26	26	24	26
A	none	none	31881	2896	4472	804	442	185	463	526	334
A	OTTER	none	92	200	235	152	183	121	93	230	142
A	PEL_TRAWL	none	87	177	197	148	98	63	102	84	80
A	POTS	none	28	1175	384	716	306	287	470	316	359
A	r-BEAM	BACOMA	0	0	0	0	2327	0	0	0	0
A	r-BEAM	none	0	0	0	0	0	0	0	0	0
A	r-DEM_SEINE	BACOMA	0	0	2177	3789	6510	4583	5354	5077	4800
A	r-DEM_SEINE	none	3294	4029	5302	5977	6720	4888	5050	6822	5344
A	r-GILL	none	1741	1698	1798	1877	1799	1512	1712	1786	1659
A	r-LONGLINE	none	2022	2140	1793	2496	1727	1449	1894	2441	1902
A	r-OTTER	BACOMA	2400	1718	3120	3121	2749	2724	2723	3524	2995
A	r-OTTER	none	2429	2524	3067	3702	3205	3622	3711	4884	4018
A	r-OTTER	T90	0	0	0	0	0	0	2016	3641	3067
A	r-PEL_TRAWL	BACOMA	1568	904	3305	5758	1441	0	3333	2472	2762
A	r-PEL_TRAWL	none	1872	2929	3658	2882	2473	8382	4240	0	5017
A	r-TRAMMEL	none	1170	1157	1388	1194	1125	670	1033	1266	954
A	TRAMMEL	none	1566	1283	669	1278	470	0	396	0	93
B	DEM_SEINE	none			0			0	0	90	55
B	DREDGE	none	0	0	0	0	4525	0	0	0	0
B	GILL	none	246	185	385	339	57	19	14	89	50
B	none	none	114172	2956	5891	1096	1038	323	470	3145	1237
B	OTTER	none	81	103	65	33	31	40	15	66	39
B	PEL_TRAWL	none	44	26	25	37	36	44	32	31	36
B	POTS	none	0	0	3	0	5	85	52	18	55
B	r-DEM_SEINE	BACOMA	0	0	5699	6444	12079	17195	8659	9448	10990
B	r-DEM_SEINE	none	588	10313	8384	10046	0	0	0	11341	11341
B	r-GILL	none	1604	1739	1921	1829	2676	3892	3872	3502	3772
B	r-LONGLINE	none	2953	2657	2934	2977	3088	1800	2965	2599	2438
B	r-OTTER	BACOMA	1722	1787	2176	2783	3795	6740	7093	6123	6635
B	r-OTTER	none	3467	3421	4575	7728	8289	10639	10453	8711	9758
B	r-OTTER	T90	0	0	0	0	0	8075	6410	4855	5496
B	r-PEL_TRAWL	BACOMA	1719	1240	2323	2917	1289	5961	8364	3359	4621
B	r-PEL_TRAWL	none	8313	4757	13942	67132	13861	12358	12830	2316	7496
B	r-TRAMMEL	none	880	439	473	2422	2579	3979	2660	952	3486
B	TRAMMEL	none	0	0	0	44	0	0	0	0	0
C	GILL	none	0	1	0	0	0	0	1	1	1
C	OTTER	none	0	0	14			0	0	0	0
C	PEL_TRAWL	none						0	0	0	0
C	POTS	none	0	0				0	0	0	0
C	r-GILL	none	133	107	104	161	213	541	571	1028	698
C	r-LONGLINE	none	0	0	0	0	0	0	0	0	0
C	r-OTTER	BACOMA	0	0	0	0	463	0	0	0	0

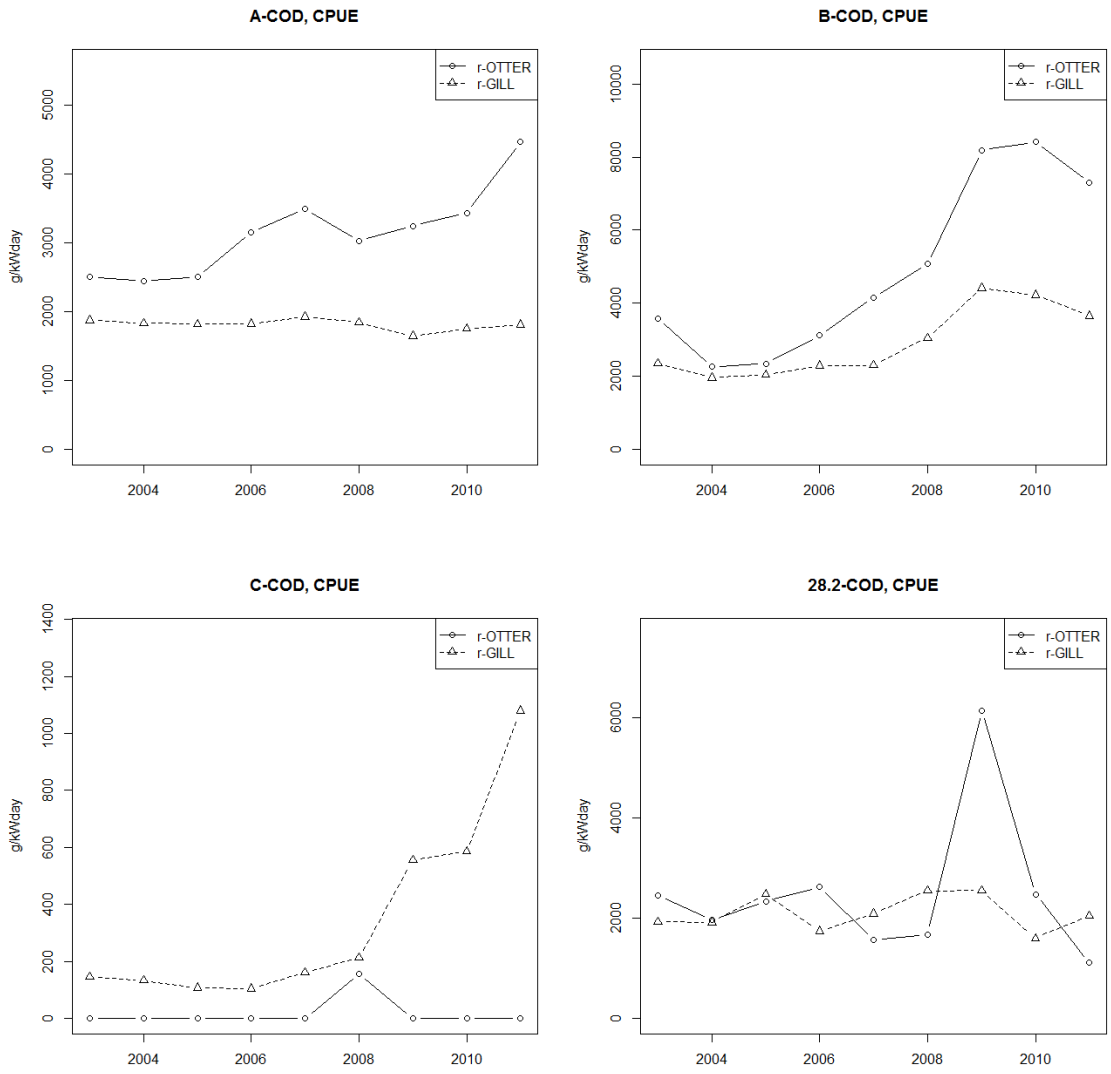


Figure 5.1.5.1 Cod CPUE (g/KW*days) by derogation, country and year, 2003-2011 for areas A, B, C and 28.2.

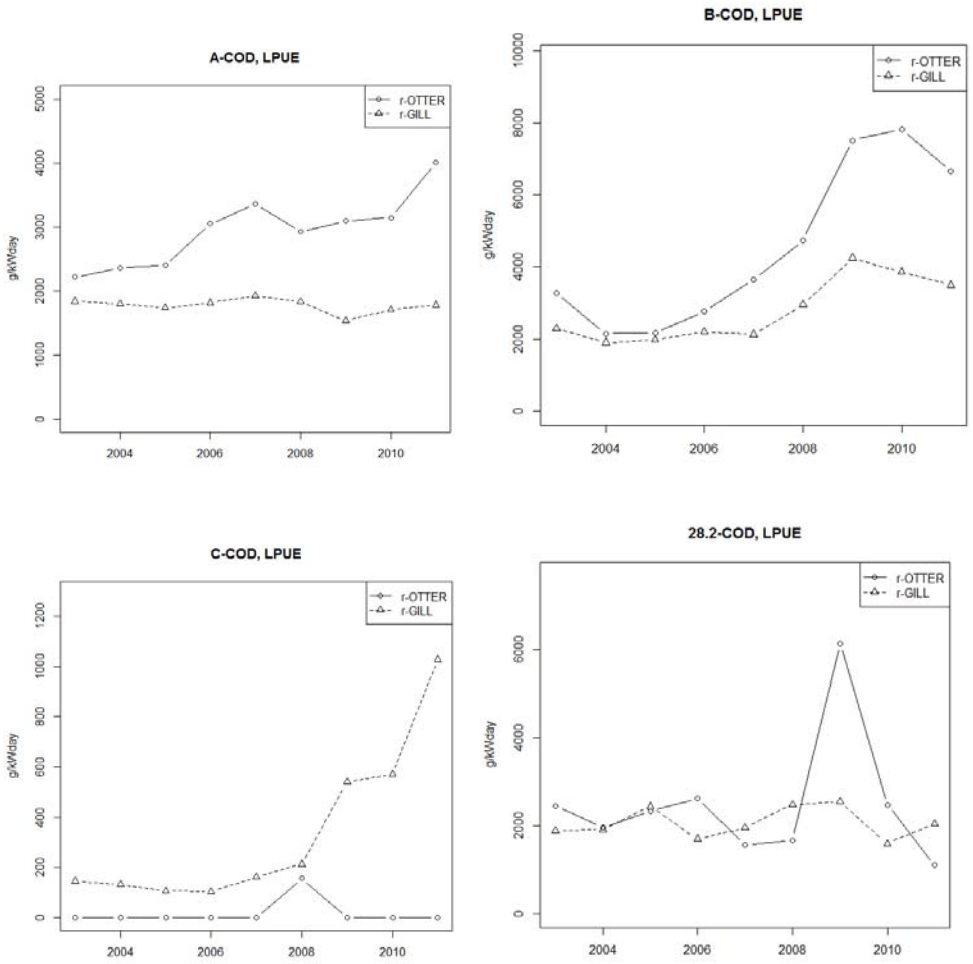


Figure 5.1.5.2 Cod LPUE (g/KW*days) by derogation, country and year, 2003-2011 for areas A, B, C and 28.2.

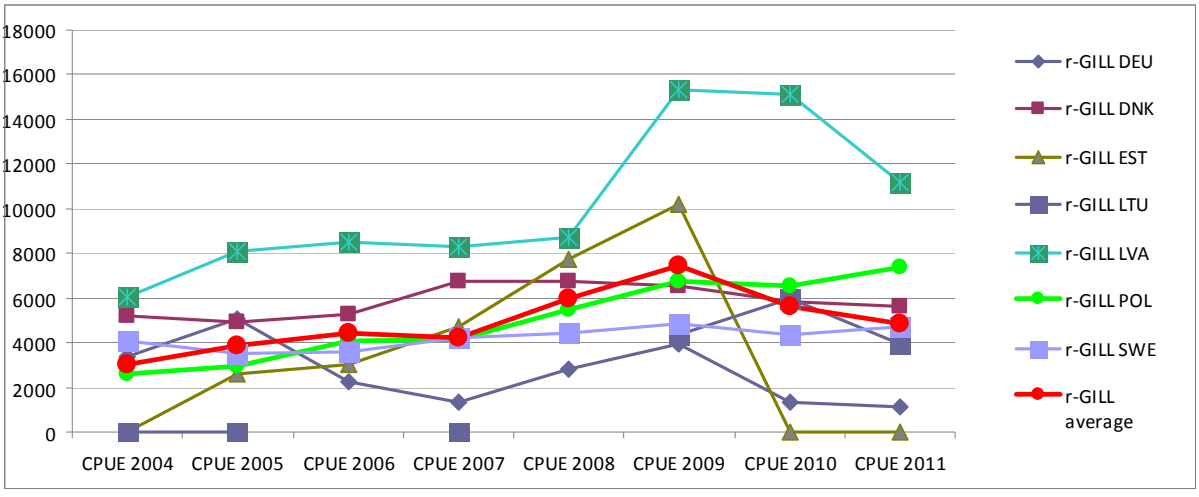


Figure 5.1.5.3 CPUE (g/kW*days) of cod in r-gill gear fisheries by Member States, 2004-2011.

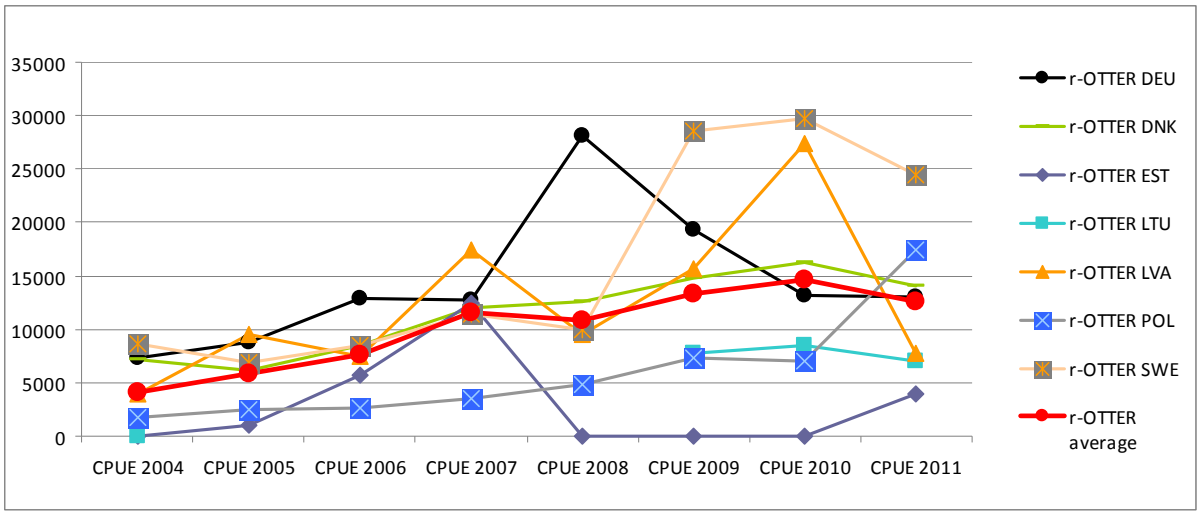


Figure 5.1.5.4 CPUE (g/kW*days) of cod in r-otter gear fisheries by Member States, 2004-2011.

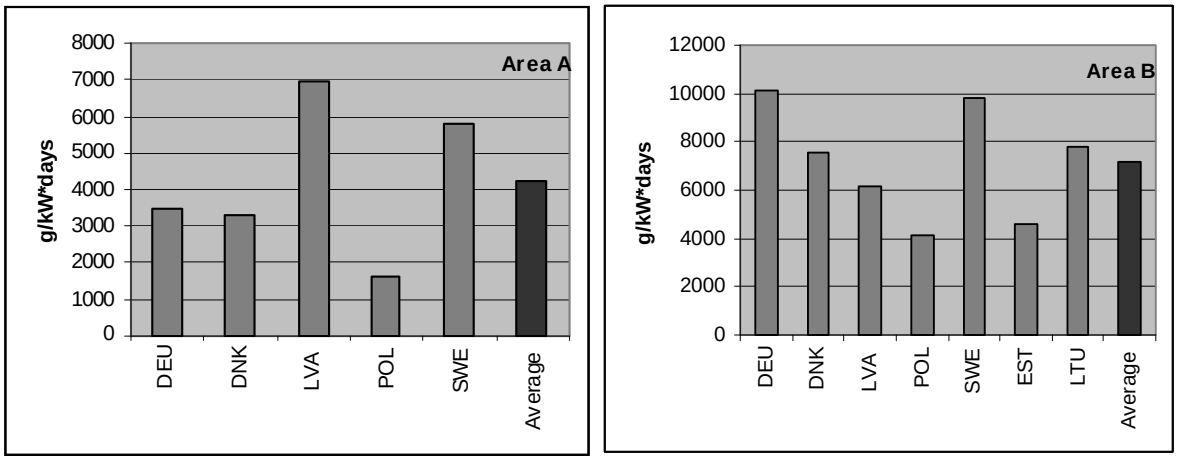


Figure 5.1.5.5. Average CPUE (g/kW*days) of cod in r-otter trawl fisheries by Member States in area A and area B. in 2004-2011.

Ranked gear categories according to catches and landings of cod by sub-area can be found in Tables 5.1.5.3 and 5.1.5.4.

There are some differences in the dominating gear that are responsible for the cod catches. Throughout the period of observations the otter trawl fishery was dominant in Areas A and B with gillnet fishery as the second most important cod catching gear. In area C, gillnets were the major gears although the total amount of cod catches was low compared to areas A and B. The variation in the dominance of certain gear types between years is limited in Areas A and B. However, in areas C larger shifts occurred. In the Sub-area 28.2, only trawls and gillnets were involved in cod fishery during the period (except minor catch by pelagic trawls in 2003). The proportion between gears had been changing on annual basis without clear trend. According to available data, cod catches from unregulated gear types do not play a significant role.

Table 5.1.5.3 Ranked gear categories according to the proportional catches of cod 2003-2011, ascending ranking according to 2011.

ANNEX	REG_AREA	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
Bal	28.2	r-PEL_TRAWL	0.030								
Bal	28.2	r-GILL	0.674	0.298	0.441	0.354	0.537	0.418	0.244	0.755	0.468
Bal	28.2	r-OTTER	0.296	0.702	0.559	0.646	0.463	0.582	0.756	0.245	0.532

ANNEX	REG_AREA	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
Bal	A	r-BEAM	0.000					0.000			
Bal	A	r-PEL_TRAWL	0.005	0.002	0.006	0.008	0.009	0.001	0.002	0.003	0.001
Bal	A	r-DEM_SEINE	0.071	0.075	0.050	0.065	0.069	0.079	0.052	0.040	0.026
Bal	A	r-LONGLINE	0.020	0.026	0.056	0.033	0.031	0.015	0.020	0.024	0.028
Bal	A	r-TRAMMEL	0.015	0.014	0.024	0.026	0.024	0.032	0.028	0.036	0.034
Bal	A	r-GILL	0.201	0.208	0.278	0.278	0.244	0.291	0.263	0.282	0.226
Bal	A	r-OTTER	0.689	0.676	0.586	0.590	0.624	0.581	0.635	0.615	0.684

ANNEX	REG_AREA	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
Bal	B	r-TRAMMEL	0.001	0.000	0.000	0.000	0.001	0.001	0.002	0.000	0.000
Bal	B	r-DEM_SEINE	0.000	0.000	0.003	0.004	0.003	0.003	0.008	0.005	0.010
Bal	B	r-LONGLINE	0.054	0.093	0.106	0.090	0.060	0.054	0.033	0.047	0.037
Bal	B	r-PEL_TRAWL	0.008	0.105	0.052	0.138	0.208	0.038	0.062	0.037	0.087
Bal	B	r-GILL	0.343	0.324	0.292	0.200	0.192	0.249	0.229	0.180	0.143
Bal	B	r-OTTER	0.595	0.478	0.547	0.568	0.536	0.655	0.665	0.730	0.723

ANNEX	REG_AREA	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
Bal	C	r-OTTER						0.063			
Bal	C	r-LONGLINE						0			
Bal	C	r-GILL	1	1	1	1	1	0.938	1	1	1

Table 5.1.5.4 Ranked gear categories according to the proportional landings of cod 2003-2011, ascending ranking according to 2011.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
Bal	28.2	COD	r-PEL_TRAWL	0.030								
Bal	28.2	COD	r-GILL	0.670	0.300	0.436	0.349	0.520	0.406	0.244	0.755	0.468
Bal	28.2	COD	r-OTTER	0.299	0.700	0.564	0.651	0.480	0.594	0.756	0.245	0.532

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
Bal	A	COD	r-BEAM	0.000					0.000			
Bal	A	COD	r-PEL_TRAWL	0.005	0.002	0.006	0.008	0.009	0.001	0.002	0.003	0.001
Bal	A	COD	r-DEM_SEINE	0.073	0.072	0.049	0.063	0.066	0.080	0.054	0.042	0.027
Bal	A	COD	r-LONGLINE	0.021	0.026	0.056	0.034	0.032	0.016	0.021	0.025	0.030
Bal	A	COD	r-TRAMMEL	0.016	0.015	0.024	0.027	0.024	0.033	0.028	0.039	0.037
Bal	A	COD	r-GILL	0.216	0.210	0.278	0.284	0.251	0.297	0.259	0.292	0.240
Bal	A	COD	r-OTTER	0.668	0.674	0.587	0.584	0.619	0.574	0.636	0.600	0.664

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
Bal	B	COD	r-TRAMMEL	0.001	0.000	0.000	0.000	0.001	0.001	0.002	0.000	0.000
Bal	B	COD	r-DEM_SEINE	0.000	0.000	0.003	0.004	0.003	0.003	0.009	0.005	0.011
Bal	B	COD	r-LONGLINE	0.056	0.096	0.109	0.099	0.066	0.057	0.033	0.045	0.039
Bal	B	COD	r-PEL_TRAWL	0.008	0.106	0.054	0.136	0.214	0.036	0.062	0.039	0.080
Bal	B	COD	r-GILL	0.357	0.325	0.298	0.211	0.196	0.255	0.237	0.179	0.150
Bal	B	COD	r-OTTER	0.578	0.473	0.536	0.550	0.520	0.647	0.657	0.732	0.721

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
Bal	C	COD	r-LONGLINE						0			
Bal	C	COD	r-OTTER						0.063			
Bal	C	COD	r-GILL	1	1	1	1	1	0.938	1	1	1

5.1.6 ToR 2 Remarks on quality of catches and discard estimates

Discard estimates were available from all Baltic Member States except for Finland. This country, however has landed small quantities of the eastern cod stock (approximately 1% of the total landings). It seems that the sampling intensity, particularly in passive gears, was generally lower as compared to active gears. This might imply that even if all major métiers were sampled, the discard estimate is an underestimate compared to the real discard. Therefore, variation in discard figures from year to year must be taken with caution and may not reflect the true exploitation pattern of the fishery. The EU Data Collection Framework (DCF) defines which metiers (Level 6) are to be sampled in a country following the rules of the fisheries metiers ranking system. The sampling strata includes also Baltic ICES Sub-divisions (not ICES rectangles) and months. Independently of the uncertainties in the discard estimates available to the STECF EWG, the changes in discard level reflect relatively well the year-classes strength of the eastern Baltic cod stock, which is in particular evident for the active gears (see Figure 5.1.3.1). Also discard ratio estimates for the Member States for the same year and fishing gears are close and follow the same trends across years studied.

5.1.7 ToR 3 Information on small boats (<8m by area)

Fishing effort and catches of cod corresponding to vessels of length overall smaller than 8 m by gear and Member State are provided

Lithuania provided data from 2006; Latvia provided data from 2009; both until 2011. Estonia did not provide effort data for this fleet segment at all.

5.1.7.1 Fishing effort of small boats by area, Member State and fisheries

According to provided information (Table 5.1.7.1.1), the biggest fishing effort was deployed by Finland, Sweden and Poland (97% on average comparing with total fishing effort in that fleet segment) (Figure 5.1.7.1.1).

The most of effort was distributed between non regulated gill nets (45%), pots (34%) and regulated gill nets (17%) (Figure 5.1.7.1.2). Only 4% of fishing effort was deployed by other types of fishing gears .

The biggest fishing effort was deployed in the area C (67% in average comparing with total fishing effort); the lowest in the area A (5% in average comparing with total fishing effort) (Figure 5.1.7.1.3?). 28% of fishing effort was deployed in area B. Fishing effort in the Sub-division 28.2 consisted 1% of all fishing efforts in the area B only. Dynamics of fishing efforts in areas A, B, C has shown that from 2004 fishing effort in the area B significantly decreased; in the area C fishing efforts fluctuated around its average; in the area A fishing effort increased from 2010.

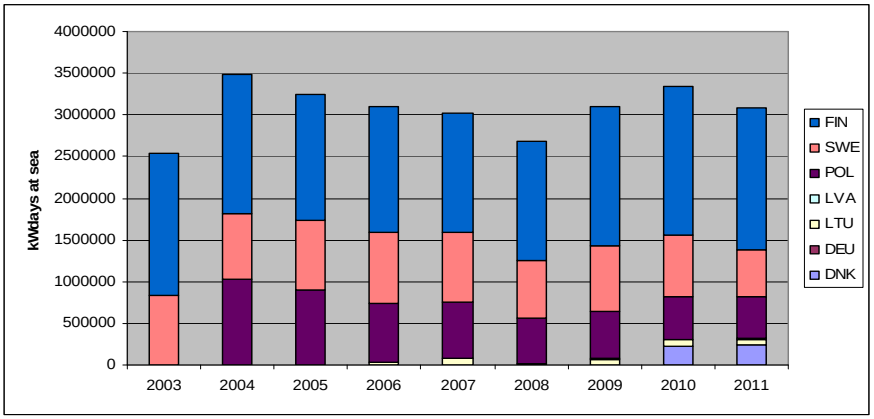


Figure 5.1.7.1.1 Distribution of fishing effort (kW days at sea) by Member States in 2003 – 2011.

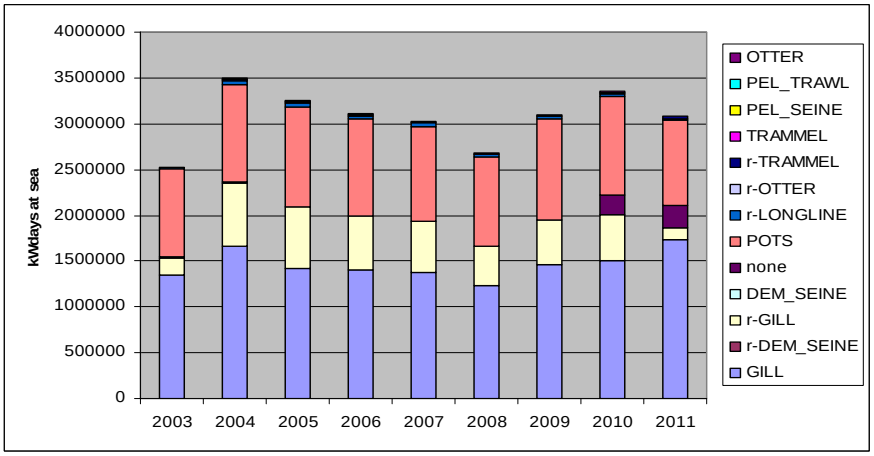


Figure 5.1.7.1.2 Distribution of fishing effort (kW days at sea) by different fishing gears in 2003 – 2011.

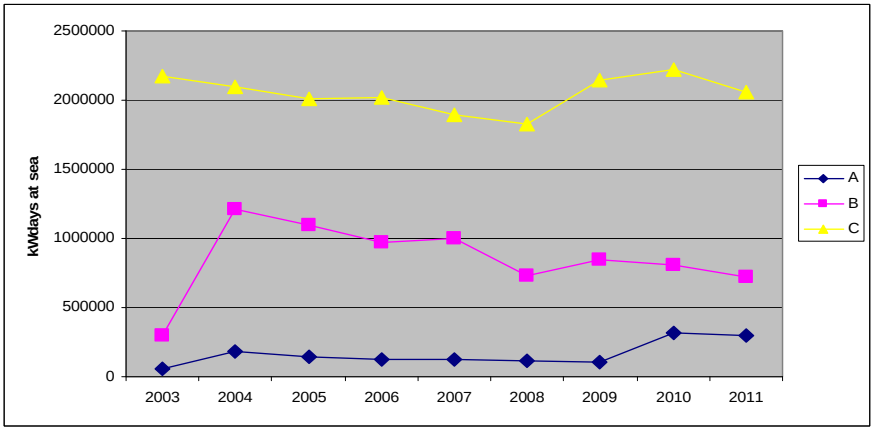


Figure 5.1.7.1.3. Dynamics of fishing effort (kW days at sea) in areas A, B, C.

Table 5.1.7.1.1 Fishing effort (kWdays at sea) of small boats by area, Member State and fisheries.

REG AREA COD	REG GEAR COD	SPECON	COUNTRY	VESSEL_	2003	2004	2005	2006	2007	2008	2009	2010	2011
28.2	GILL	none	LVA	u8m							2460	1024	
28.2	r-DEM_SEINE	none	LVA	u8m							46	36	
28.2	r-GILL	none	LVA	u8m							7387	5022	6518
A	DEM_SEINE	none	POL	u8m		1925	1035						
A	DEM_SEINE	none	SWE	u8m			16						
A	GILL	none	POL	u8m		70644	49864	34033	43230	35850	21984	35190	41160
A	GILL	none	SWE	u8m	2871	6271	383	885			1353	485	313
A	none	none	DNK	u8m	482	699	1348	1117	1597	653	1221	195335	208188
A	none	none	SWE	u8m	22	74	2813	2052	2659	2739	110	706	
A	POTS	none	POL	u8m		26730	20268	14502	15888	25323	21954	20576	12497
A	POTS	none	SWE	u8m	28974	23886	25365	28788	23451	12845	23090	29839	8425
A	r-GILL	none	DEU	u8m									192
A	r-GILL	none	POL	u8m		26014	19941	15700	18809	17544	15584	9865	
A	r-GILL	none	SWE	u8m	24692	13884	15332	16650	15614	15720	7406	13074	15376
A	r-LONGLINE	none	POL	u8m		658			29	97	753	102	173
A	r-LONGLINE	none	SWE	u8m		2522	392						
A	r-OTTER	none	POL	u8m						21			
A	r-TRAMMEL	none	POL	u8m				114	119				
A	r-TRAMMEL	none	SWE	u8m	3672	8118	10053	8683	7146	7657	7687	14540	9764
A	TRAMMEL	none	POL	u8m		3058	2708	2243	5295	1367	971	112	
B	DEM_SEINE	none	POL	u8m		3111	959	31		59		82	1098
B	DEM_SEINE	none	SWE	u8m						44			
B	GILL	none	LTU	u8m							34504	30277	16793
B	GILL	none	LVA	u8m							844	462	720
B	GILL	none	POL	u8m		145108	109011	72210	71172	60146	51258	50365	402402
B	GILL	none	SWE	u8m	11760	17940	17036	18779	21529	17550	27674	31454	28688
B	none	none	DNK	u8m							0	26845	26008
B	none	none	SWE	u8m	61	9		1014	4495	1100	1109	998	
B	PEL_SEINE	NONE	POL	u8m									22
B	PEL_TRAWL	none	POL	u8m			59						
B	POTS	NONE	LTU	u8m									5018
B	POTS	none	POL	u8m		124796	107603	69044	59160	46887	44134	69259	30576
B	POTS	none	SWE	u8m	152174	138253	149638	180982	205254	137653	162669	129568	85842
B	r-DEM_SEINE	none	LVA	u8m									
B	r-GILL	none	LTU	u10m				30799	67068	16778			
B	r-GILL	none	LTU	u8m							28808	42127	42080
B	r-GILL	none	LVA	u8m							1078	1979	3266
B	r-GILL	none	POL	u8m		613889	572660	483645	447619	343626	398418	322538	22
B	r-GILL	none	SWE	u8m	118038	111340	86034	71269	79583	81410	68069	61424	42923
B	r-LONGLINE	none	LTU	u10m				1966	10496	132			
B	r-LONGLINE	none	LTU	u8m							2170	3787	7999
B	r-LONGLINE	none	POL	u8m		30606	27836	21358	19258	12029	14925	13281	9063
B	r-LONGLINE	none	SWE	u8m	6965	12481	15858	8229	8089	6978	6209	5882	3589
B	r-TRAMMEL	none	POL	u8m		77							
B	r-TRAMMEL	none	SWE	u8m	1423	3881	3238	3931	3740	3410	1530	11884	10915
B	TRAMMEL	none	POL	u8m		119			37	31			
B	TRAMMEL	none	SWE	u8m	6098	6999	3406	11500	5455	4858	5238	5030	5433
C	DEM_SEINE	none	SWE	u8m	1827	824			526				
C	GILL	none	FIN	u8m	1168557	1152304	1000201	1033994	957521	888768	1057622	1188962	1101469
C	GILL	NONE	POL	u8m									102
C	GILL	none	SWE	u8m	165644	160268	173471	166700	168797	154373	185927	169655	139908
C	none	none	SWE	u8m	3192	257	1269	4126	2030	331	629		
C	OTTER	none	SWE	u8m	816			66					
C	POTS	none	FIN	u8m	532031	505759	510189	483518	472706	527856	609518	586124	599198
C	POTS	none	SWE	u8m	255454	240193	275226	277286	251989	227243	247262	234842	191732
C	r-GILL	none	SWE	u8m	47268	39858	49762	46841	40313	28534	38939	38007	25078
C	r-LONGLINE	none	SWE	u8m				3077					
C	TRAMMEL	none	SWE	u8m	912	912							

5.1.7.2 Catches (landings and discards) of small boats by area, Member State and fisheries

STECF notes that discard observation and estimation are scarce for small boats. Using the information available, the estimated catches are believed to represent rather landings. According to provided information (Table 5.1.7.2.1) the biggest cod landings on average were taken with fishing gears named as “none” (34%) and regulated gill nets (34%) (Figure 5.1.7.2.1). Other important gears for cod landings were unregulated gill nets (23%) and regulated longlines (7%). By other types of fishing gears 2% of cod was fished only.

The landings of cod were taken almost equally from the area A (53%) and from the area B (47%) (Figure 5.1.7.2.2). The catches of cod in the area C consisted of less than 0.1% of total landings. The landings of cod in the area 28.2 consisted of 2% of all landings in the area B only. Since 2005 the negative trend in total cod landings can be observed. The main reason of that insignificant decrease- of landings in the area A. Comparison of 2011 and 2010 reveals clear decrease of cod landings o take by regulated gill nets and increase in landings

taken by unregulated gill nets. Landings of cod corresponding to vessels of length overall less than 8 m consist of 4.2% of total catches in the area A, 1.6% - in the areas B+C and 2.2% - for all Baltic.

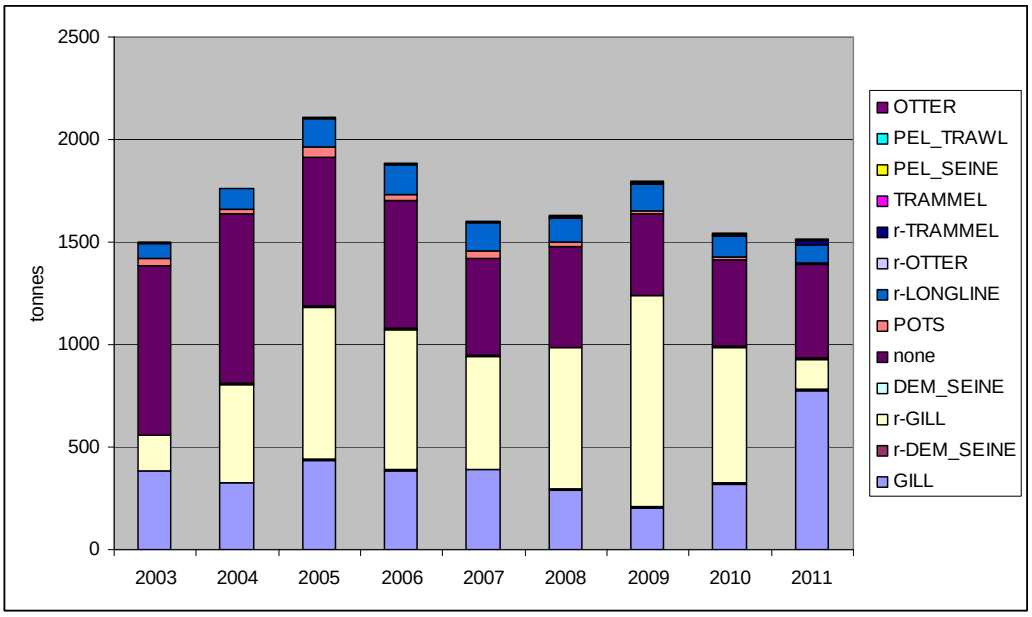


Figure 5.1.7.2.1 Distribution of cod landings taken by different gear types in 2003 – 2011.

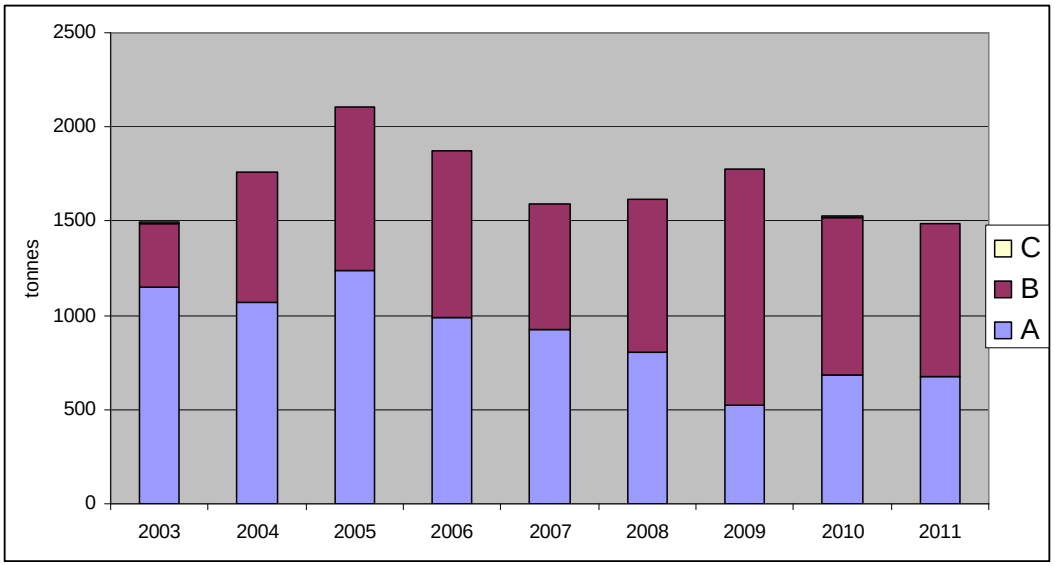


Figure 5.1.7.2.2 Cod landings and dynamics (2003 – 2011) in the areas A, B, C.

Table 5.1.7.2.1. Cod landings taken by < 8 m vessels in 2003-2011 (t).

REG_AREA	REG_GEAR	2003	2004	2005	2006	2007	2008	2009	2010	2011
28.2	GILL									
28.2	r-DEM_SEINE									
28.2	r-GILL			8	39	50	36	8	6	4
28.2	r-LONGLINE									
28.2 TOTAL		0	0	8	39	50	36	8	6	4
A	GILL	386	321	436	381	388	290	199	308	263
A	none	717	648	589	471	340	327	222	290	330
A	OTTER									
A	POTS	7	10	33	16	23	5	4	9	5
A	r-DEM_SEINE									
A	r-GILL	35	76	145	106	128	154	85	65	55
A	r-LONGLINE	1	10	27	13	44	18	10	8	6
A	r-OTTER		1				1			
A	r-TRAMMEL	5	1	6	3	5	9	4	7	19
A	TRAMMEL									
A TOTAL		1151	1067	1236	990	928	804	524	687	678
B	GILL		6	2	4	1	2	6	7	511
B	none	108	179	142	152	134	166	175	125	127
B	PEL_SEINE									
B	POTS	23	14	14	14	11	14	7	6	4
B	r-GILL	138	403	598	580	421	530	939	600	89
B	r-LONGLINE	70	90	111	136	95	96	124	93	80
B	r-OTTER									
B	r-TRAMMEL								5	1
B	TRAMMEL									
B TOTAL		339	692	867	886	662	808	1251	836	812
C	GILL						1	1	1	1
C	POTS	9								
C	r-GILL									
C	r-LONGLINE									
C TOTAL		9	0	0	0	0	1	1	1	1
GRAND TOTAL A+B+C		**1499**	**1759**	**2103**	**1876**	**1590**	**1613**	**1776**	**1524**	**1491**

5.1.8 ToR 4 Partial fishing mortality of cod by area, Member State and fisheries

EWG 12-12 interprets this task as largely overlapping with ToR 10. The EWG 12-12 analyses and response can be found in section 5.1.14.

5.1.9 ToR 5 Trend in calculated maximum effort of regulated gears and uptake by area and Member State

The EWG was given the task of quantifying the evolution of the calculated maximum effort allocated to the cod fleet (ceiling of days using regulated gear types) in relation to the effort actually used by that fleet and was asked to highlight possible shifts between métiers.

The group analysed the data obtained by the DCF data call of 2nd February 2012 and found that the available data do not support an analyses to estimate the uptake of the fishing effort. However, STECF EWG 12-12 estimated the effort ceilings from the available data from the numbers of boats using a regulated gears in a

given area and year times the maximum number of days granted as stipulated in the annual TAC and quota regulations. These can be seen in the following Table 5.1.9.1.

Table 5.1.9.1 Estimated ceilings (maximum) of days at sea by area and country as estimated from the number of vessels using any regulated gear in any area times the maximum days at sea per vessel.

Area A							Area B						
COUNTRY	2006	2007	2008	2009	2010	2011	COUNTRY	2006	2007	2008	2009	2010	2011
DEU	97734	90024	75374	65325	55024	46455	DEU	14514	6188	8544	9280	8480	8480
DNK	146874	119536	90984	74370	58463	53138	DNK	47724	27482	21894	20160	18560	18560
EST	1092	744	446	402	362		EST	10578	6552	5340	4160	4800	4800
FIN	819	744	892	1005	1267	1304	FIN	738	546	712	800	1120	1120
							LTU				5440	4800	4800
LVA	8190	3224	669	402	1629	163	LVA	20172	12012	10502	10240	9120	9120
POL	41496	64728	43931	24120	15204	13692	POL	133332	90272	82770	52640	50560	50560
SWE	36309	35712	30997	24723	19186	20701	SWE	76752	56056	48772	43520	37280	37280
sum	332514	314712	243293	190347	151135	135453		303810	199108	178534	146240	134720	134720

The STECF EWG did also estimate the trends in days used by the individual vessels deploying regulated gears. The resulting figures are given in the Table 5.1.9.2. Now these figures cannot be linked in order to estimate the requested uptake of effort. STECF EWG 12-12 notes that the upper Table 5.1.9.1 provides estimated maximum allowed days for all vessels using any of the regulated gears while the table below is vessel and fisheries specific (by gear group). Such information is incompatible as any vessel may have switched the gear groups and thus may be multiple counted. Given the lack of vessel specific effort data and that the regulation of maximum effort allowed is by vessel when using any regulated gear, STECF EWG 12-12 concludes that the ToR to estimate the effort uptake cannot be accomplished properly.

STECF EWG 12-12 concludes that simple fishing effort ceilings by vessel imply a number of drawbacks which imply management risks of missing the management goal. Without taking into account the fishing power of boats of different length and engine power and without accounting for the effectiveness of the gears used, such management risk appears unacceptably high. STECF EWG 12-12 recommends that, if the management wants to continue a fishing effort management scheme in the Baltic, a more suitable effort unit shall be defined and applied to account for fisheries specific effects.

Further conclusions on the effort unit of kWdays at sea and its relation to fishing mortality by fisheries are provided in section 5.1.14.

Table 5.1.9.2. Estimated days at sea used by Member States in the various areas deploying regulated gears.

ANNEX	REG AREA	REG GEAR COD	COUNTRY	2003	2004	2005	2006	2007	2008	2009	2010	2011
Bal	28.2	r-DEM_SEINE	LVA	46	31					86	87	
Bal	28.2	r-GILL	EST				1					
Bal	28.2	r-GILL	LVA	1036	336	598	430	366	153	343	534	414
Bal	28.2	r-OTTER	EST				1	1				
Bal	28.2	r-OTTER	LVA	200	402	435	312	287	173	99	38	161
Bal	28.2	r-PEL_TRAWL	LVA	4		31	25	5		13		
Bal	A	r-BEAM	DEU	2					18			
Bal	A	r-BEAM	DNK								1	
Bal	A	r-DEM_SEINE	DEU		18	4	49	66	100	83	23	46
Bal	A	r-DEM_SEINE	DNK						917	628	473	317
Bal	A	r-GILL	DEU	8462	7219	14201	22002	21213	17262	13418	11971	11310
Bal	A	r-GILL	DNK						12001	10655	9228	7920
Bal	A	r-GILL	EST			115	124	68	125	151		
Bal	A	r-GILL	LTU									
Bal	A	r-GILL	LVA	472	811	1044	997	145	47	12	48	21
Bal	A	r-GILL	POL		3908	4173	2656	4062	2912	1914	1129	1110
Bal	A	r-GILL	SWE	6311	5329	5743	5015	4958	5547	4643	4057	3944
Bal	A	r-LONGLINE	DEU	917	918	1456	1659	1449	1375	1625	976	772
Bal	A	r-LONGLINE	DNK						558	573	640	681
Bal	A	r-LONGLINE	LTU									
Bal	A	r-LONGLINE	POL		389	1601	544	693	240	123	87	120
Bal	A	r-LONGLINE	SWE	71	328	807	325	150	124	388	319	472
Bal	A	r-OTTER	DEU	10251	9467	8771	8125	7952	6727	5677	5239	5317
Bal	A	r-OTTER	DNK						9316	8507	7180	6110
Bal	A	r-OTTER	EST			7					6	
Bal	A	r-OTTER	LTU									
Bal	A	r-OTTER	LVA	4		76		84			36	
Bal	A	r-OTTER	POL		748	1361	589	2374	1323	940	717	733
Bal	A	r-OTTER	SWE	754	705	589	807	960	728	415	331	691
Bal	A	r-PEL_TRAWL	DEU	67	20	78	120	177	22		17	27
Bal	A	r-PEL_TRAWL	DNK						17	14	44	4
Bal	A	r-PEL_TRAWL	EST			3		3				
Bal	A	r-PEL_TRAWL	LTU									
Bal	A	r-PEL_TRAWL	POL		3	40	3	8			1	
Bal	A	r-PEL_TRAWL	SWE		5	6	9		1			6
Bal	A	r-TRAMMEL	DEU	182	295	643	1091	2150	2092	2065	1349	1734
Bal	A	r-TRAMMEL	DNK						4253	4424	4008	3185
Bal	A	r-TRAMMEL	SWE	378	340	722	596	522	683	963	616	443
Bal	B	r-DEM_SEINE	DEU		2		20	15	18	41	52	76
Bal	B	r-DEM_SEINE	DNK									16
Bal	B	r-DEM_SEINE	POL									1
Bal	B	r-GILL	DEU	67	50	361	82	58	24	50		
Bal	B	r-GILL	DNK						2362	2078	1645	1674
Bal	B	r-GILL	EST			462	458	308	140	101		
Bal	B	r-GILL	LTU							944	821	635
Bal	B	r-GILL	LVA	8803	9376	4413	3501	3306	3024	2447	2213	2140
Bal	B	r-GILL	POL		40916	25446	21835	17523	13910	11214	10733	10158
Bal	B	r-GILL	SWE	18648	15348	12125	10484	9220	10766	9395	6868	6188
Bal	B	r-LONGLINE	DEU	57	74	92	47	56	82	59	30	11
Bal	B	r-LONGLINE	DNK						475	633	693	669
Bal	B	r-LONGLINE	LTU							80	43	58
Bal	B	r-LONGLINE	POL		7984	7926	8748	5036	3101	2862	3706	3352
Bal	B	r-LONGLINE	SWE	3304	3944	3574	3503	1925	2513	2226	1671	1901
Bal	B	r-OTTER	DEU	1043	644	996	625	282	775	1078	1365	485
Bal	B	r-OTTER	DNK						2625	2694	3120	4133
Bal	B	r-OTTER	EST			100	26	43			171	281
Bal	B	r-OTTER	LTU							1300	1508	1812
Bal	B	r-OTTER	LVA	1759	1421	1054	1546	797	1012	806	892	2005
Bal	B	r-OTTER	POL		24902	15831	17179	10038	7031	4601	5562	5583
Bal	B	r-OTTER	SWE	5275	5079	4262	4041	2640	2847	2539	2810	3427
Bal	B	r-PEL_TRAWL	DEU		626	441	357	247	79	168	281	515
Bal	B	r-PEL_TRAWL	DNK						5	15	16	24
Bal	B	r-PEL_TRAWL	EST			125	163	178	230	109	61	225
Bal	B	r-PEL_TRAWL	LTU							90	8	20
Bal	B	r-PEL_TRAWL	LVA	23	462	12	136	547	43	58		
Bal	B	r-PEL_TRAWL	POL		2342	496	1534	1059	56	89	10	74
Bal	B	r-PEL_TRAWL	SWE		260	205	651	296	63	66	60	197
Bal	B	r-TRAMMEL	DNK						58	202	40	16
Bal	B	r-TRAMMEL	SWE	128	117	18	14	29	59	18	1	6
Bal	C	r-GILL	EST			1	1					
Bal	C	r-GILL	SWE	1133	1141	1156	1045	862	874	859	1021	902
Bal	C	r-LONGLINE	SWE	15					1		0	
Bal	C	r-OTTER	EST			21	27	14	21			
Bal	C	r-OTTER	SWE			1			8			
Bal	C	r-TRAMMEL	SWE				24					

5.1.10 ToR 6 Evaluation of fully documented fisheries FDF

5.1.10.1 Fishing effort of FDF vessels by area, Member State and fisheries in comparison with fisheries not working under FDF provisions

Table 5.1.10.1.1 provides the information on fully documented fishery, which was made available to the Expert Group. The data were provided only by Denmark for the Areas A and B by gear types for 2010 and 2011. The fully documented fishery represented 4% of the total Danish regulated effort deployed in both areas A and B in 2010 and 10% in 2011.

Table 5.1.10.1.1 Danish fishing effort (kWdays at sea) and cod landings (t) taken by FDF vessels.

REG AREA COD	REG GEAR COD	SPECON	COUNTRY	Year 2010 (effort)	2010 L (cod)	2010 D (cod)	Year 2011 (effort)	2011 L (cod)	2011 D (cod)
A	PEL_TRAWL	FDFBAL	DNK	440					
	r-DEM_SEINE	FDFBAL	DNK				6256	56	0
	r-OTTER	FDFBAL	DNK	41001	264	0	78223	620	0
	r-PEL_TRAWL	FDFBAL	DNK	660	8	0			
B	DEM_SEINE	FDFBAL	DNK	3740			9240	1	0
	none	FDFBAL	DNK	220					
	OTTER	FDFBAL	DNK	440	0	0			
	PEL_TRAWL	FDFBAL	DNK	12760	2	0	3960	0	0
	r-OTTER	FDFBAL	DNK	83407	725	0	221886	1633	0
	r-PEL_TRAWL	FDFBAL	DNK	1540	19	0			
Grand Total				144208	1018	0	319565	2310	0

5.1.10.2 Catches (landings and discards) of cod and other species taken by FDF fisheries by area, Member State and fisheries in comparison with fisheries not working under FDF provisions

The reported Danish landings of cod from the fully documented fishery amounted to 272 t in area A and 746 t in area B (total 1018 t) in 2010 (Table 5.1.10.1.1). The respective values for 2011 were 676 t in area A and 1,634t for area B. The landings from fully documented fishery covered 6% from the reported cod landings in these areas in 2010 and 9% of the landings in 2011. No discards were reported in this segment of fishery for both years.

5.1.11 ToR 7 Spatio-temporal patterns in effective effort by area and fisheries

According to available effort data in units of fished hours, the spatial distribution of deployed otter trawl effort (Figure 5.1.11.1) did not show any particular trend over the time series. During 2003–2011 period the biggest fishing effort concentration was observed in areas of Bornholm Deep and in the northern part of Polish EEZ. However, the effort seems to be distributed more evenly across the areas A-C after 2006.

The gillnet effort has been concentrated in areas A and B without any clear temporal pattern (Figure 5.1.11.2). During 2003–2011 period the biggest fishing efforts concentration was in the Polish coastal areas. The Figure 5.1.11.3 shows the general distribution pattern of another big contributor of effort in the Baltic – the pelagic trawls. The distribution pattern indicates the high concentration of effort in the areas of Bornholm and Gdansk Deep as well as in the Sub-division 28.2 in 2003-2007.

The pelagic trawl effort was distributed rather evenly in the most recent years. This can be explained with northward distribution of sprat stock in recent years (ICES, 2012).

A full set of effort distribution figures, will be made available on the web page of the EWG 12-12.

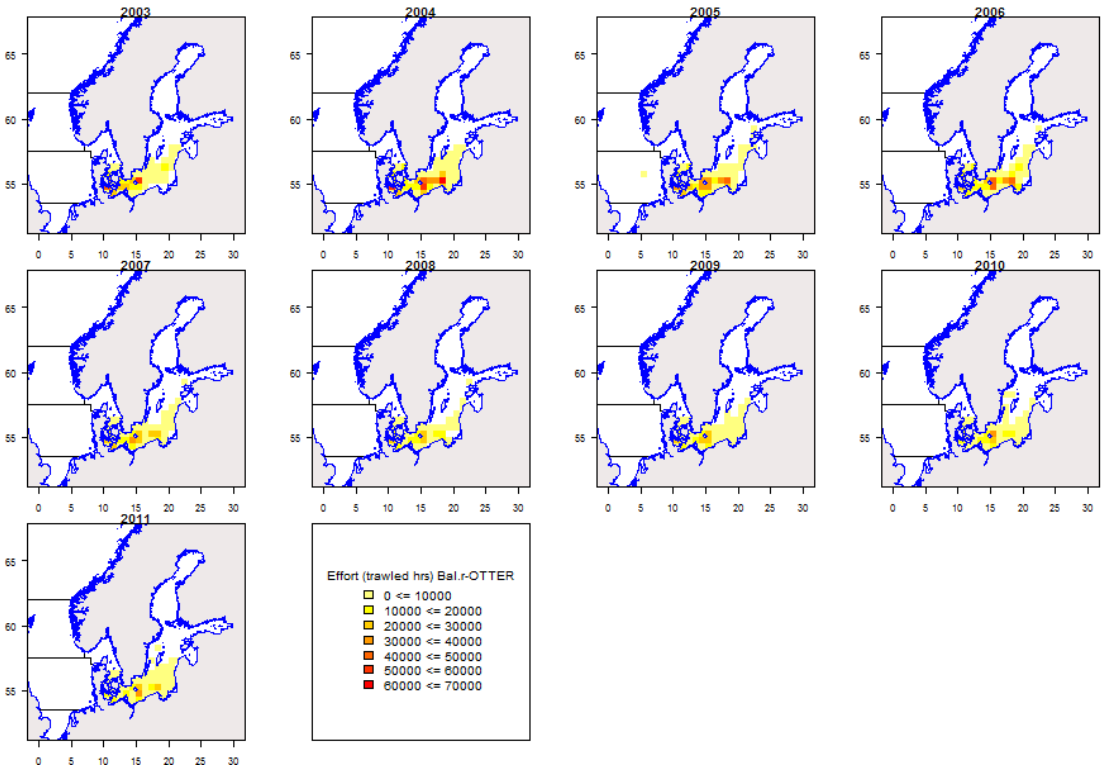


Figure 5.1.11.1 Spatial distribution of effective effort (trawled hours) r-OTTER 2003-2011. There was no data reported on the spatial distribution from Finland.

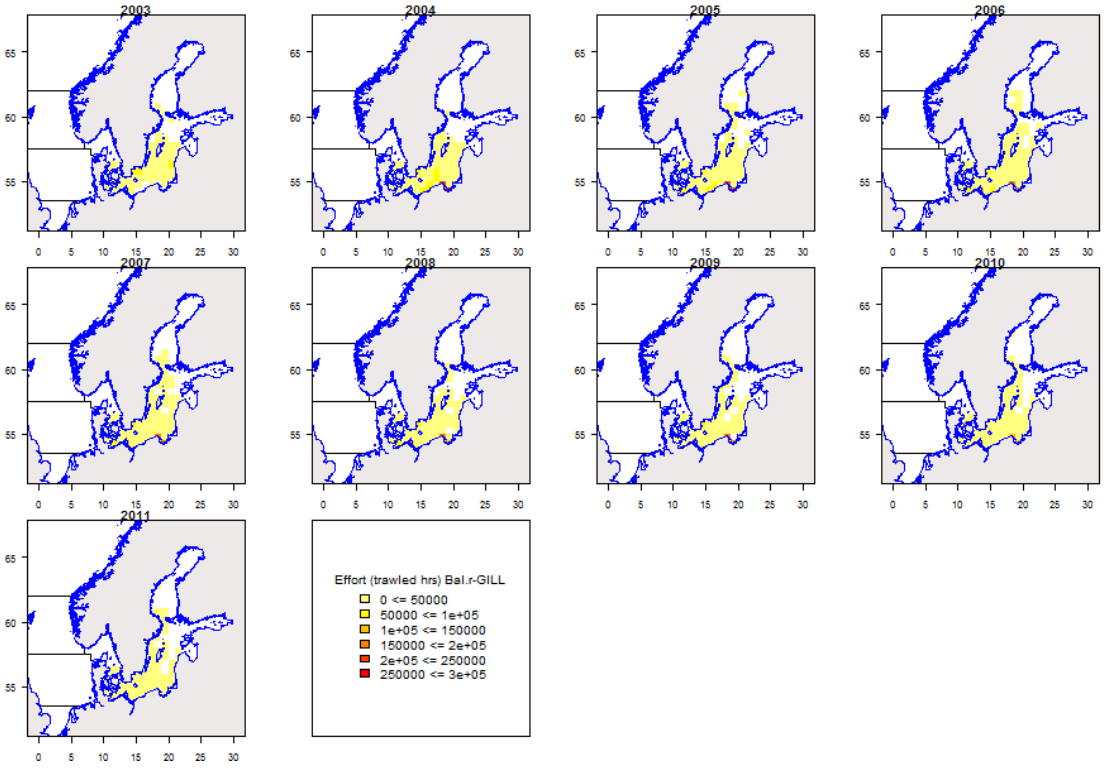


Figure. 5.1.11.2 Spatial distribution of effective effort (fishing hours) r-Gill 2003-2011. There was no data reported on the spatial distribution from Finland.

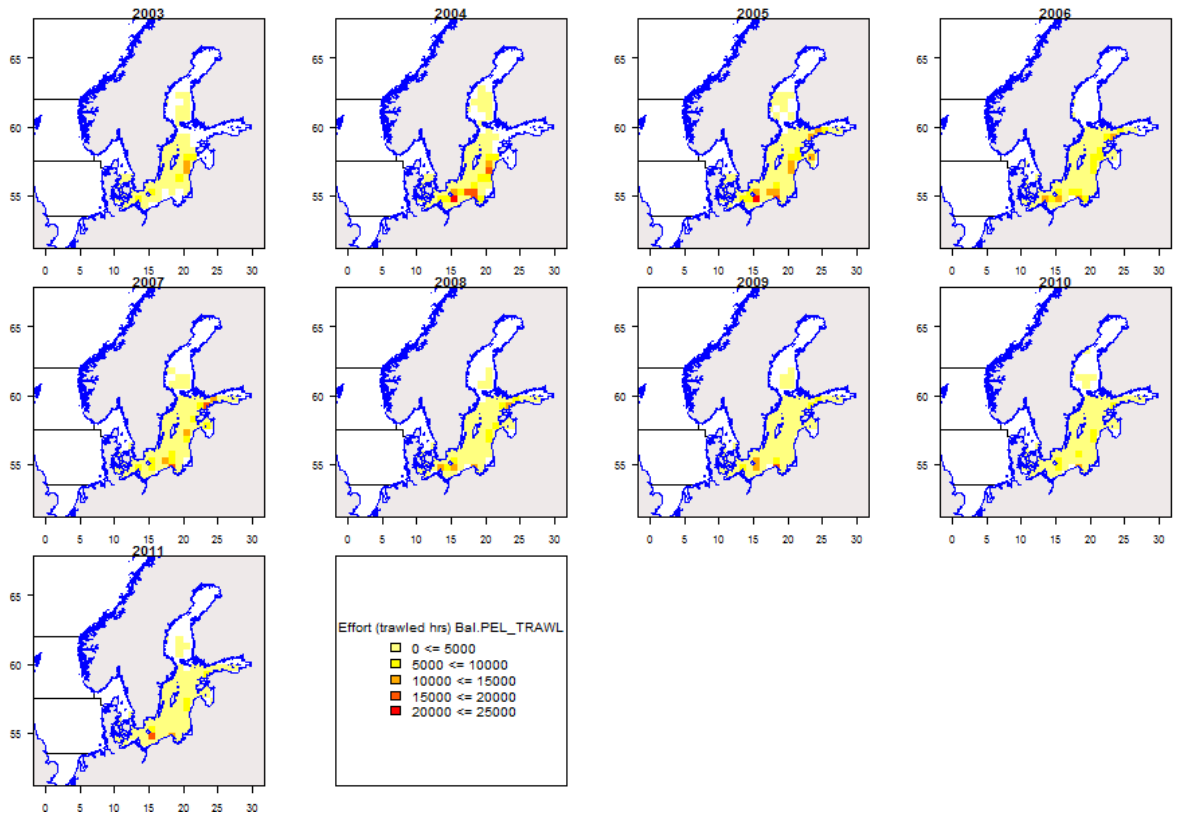


Figure. 5.1.11.3 Spatial distribution of effective effort (fishing hours) pelagic trawls 2003-2011. There was no data reported on the spatial distribution from Finland.

5.1.12 ToR 8 Any unexpected evolutions of the trends in catches and effort by area, Member State and fisheries

The STEF EWG 12-12 has no specific observations to report.

5.1.13 ToR 9 Correlation between partial cod mortality and fishing effort by area, Member State and fisheries

The STECF EWG 12-12 has estimated partial fishing mortalities of both stocks of Western and Eastern Baltic cod for all identified regulated and non-regulated gear groups by Member States and correlated them against fishing effort. The major fisheries are presented in the following section 5.1.14.

5.1.14 ToR 10 Estimation of partial fishing mortalities of cod by area, Member State and fisheries and correlation between partial cod mortality and fishing effort by area, Member State and fisheries

5.1.14.1 Western Baltic cod in area A

The STECF EWG presents partial fishing mortalities by fisheries using regulated gears and Member States in relation to the estimated fishing mortality by ICES (2012) and the catches (s. Tab. 5.1.14.1.1), landings (s. Tab. 5.1.14.1.2) and discards volumes (s. Tab. 5.1.14.1.3), respectively. The full list of partial fishing mortalities of all fisheries can be downloaded from the EWG's web page. The anticipated trend in fishing mortality and fishing effort in units of kW days at sea as derived from the cod plan is also presented in upper parts of such tables. The sustainable exploitation target is defined as Fmsy=0.25. The trends in fishing effort in units of kWdays at sea of the relevant fisheries are also presented in Table 5.1.14.1.1-3. The presented parameters r (absolute value of Pearson's coefficient of correlation), numbers of points considered as well as a p value to quantify the statistical significance (≤ 0.05) allow conclusions about the quality of the correlation between the partial F and fisheries specific fishing effort. The trajectories between partial F and fishing effort in are shown in Fig. 5.1.14.1.1.

It can be concluded from the estimated F in 2012 (Tab. 5.1.14.1.1) that the stock is subject to overfishing and that the annual F reductions are following the plan since 2010. Discard mortality is generally low (Tab. 5.1.14.1.3). In recent years the listed effort regulated fisheries do contribute more than 86% to the total fishing mortality.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for catch and landings of the major fisheries and their estimated fishing efforts are highly significant. The correlation between the rather low partial Fs of discards and effort are not significant, but discarding is considered a minor issue in the Western Baltic anyway. The partial Fs of most of the Member States fisheries using regulated gears are also closely correlated with their specific effort estimates in kW days at sea. This indicates that effective fisheries management by fishing effort in units of kWdays at sea appears possible, also as an auxiliary measure to catch constraints and technical measures.

Table 5.1.14.1.1 The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for catches of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

2008 moving reference year annual F reductions by 10 percent until F<=Fmsy=0.25, not to F=0.6							Reference year									
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F plan							1.015	1.093	1.063	0.738	0.707	0.636	0.572	0.515	0.464	0.418
reduction F plan												-0.10	-0.10	-0.10	-0.10	-0.10
F estimated							1.015	1.093	1.063	0.738	0.707	0.725	0.604	0.443	0.420	
reduction F estimated												0.03	-0.17	-0.27	-0.05	
F par estimated as F*landings or discards(fishery)/Catch(total)																
Regime	Area	Species	Country	Gear	Specon	catch.cate	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Bal	A	COD	DEU	r-BEAM	none	catch	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000	
Bal	A	COD	DEU	r-DEM_SE	none	catch	0.0000	0.0003	0.0015	0.0015	0.0039	0.0085	0.0068	0.0015	0.0017	
Bal	A	COD	DEU	r-GILL	none	catch	0.0375	0.0300	0.0434	0.0524	0.0463	0.0524	0.0334	0.0346	0.0219	
Bal	A	COD	DEU	r-LONGLIN	none	catch	0.0005	0.0011	0.0023	0.0010	0.0005	0.0007	0.0005	0.0009	0.0007	
Bal	A	COD	DEU	r-OTTER	none	catch	0.1800	0.1884	0.1894	0.1591	0.1436	0.1164	0.1019	0.0893	0.0874	
Bal	A	COD	DEU	r-PEL_TRA	none	catch	0.0015	0.0005	0.0013	0.0023	0.0051	0.0002	0.0000	0.0004	0.0004	
Bal	A	COD	DEU	r-TRAMMI	none	catch	0.0001	0.0001	0.0006	0.0009	0.0024	0.0033	0.0024	0.0012	0.0019	
Bal	A	COD	DNK	r-DEM_SE	none	catch	0.0502	0.0658	0.0407	0.0421	0.0426	0.0418	0.0205	0.0135	0.0095	
Bal	A	COD	DNK	r-GILL	none	catch	0.0585	0.0686	0.1143	0.0694	0.0572	0.0638	0.0512	0.0404	0.0359	
Bal	A	COD	DNK	r-LONGLIN	none	catch	0.0125	0.0146	0.0276	0.0144	0.0113	0.0045	0.0043	0.0045	0.0054	
Bal	A	COD	DNK	r-OTTER	none	catch	0.2759	0.3648	0.2668	0.1935	0.1889	0.1885	0.1867	0.1268	0.1316	
Bal	A	COD	DNK	r-PEL_TRA	none	catch	0.0018	0.0011	0.0022	0.0029	0.0060	0.0002	0.0008	0.0010	0.0000	
Bal	A	COD	DNK	r-TRAMMI	none	catch	0.0097	0.0114	0.0174	0.0144	0.0124	0.0155	0.0104	0.0099	0.0093	
Bal	A	COD	EST	r-GILL	none	catch	0.0000	0.0000	0.0023	0.0031	0.0014	0.0045	0.0070	0.0000	0.0000	
Bal	A	COD	EST	r-OTTER	none	catch	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	EST	r-PEL_TRA	none	catch	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	LTU	r-LONGLIN	none	catch	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	LTU	r-OTTER	none	catch	0.0000	0.0000	0.0047	0.0013	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	LTU	r-PEL_TRA	none	catch	0.0000	0.0000	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	LVA	r-GILL	none	catch	0.0044	0.0117	0.0156	0.0174	0.0025	0.0010	0.0008	0.0021	0.0006	
Bal	A	COD	LVA	r-OTTER	none	catch	0.0001	0.0000	0.0021	0.0000	0.0051	0.0000	0.0000	0.0028	0.0000	
Bal	A	COD	POL	r-GILL	none	catch	0.0000	0.0152	0.0171	0.0131	0.0241	0.0219	0.0105	0.0049	0.0056	
Bal	A	COD	POL	r-LONGLIN	none	catch	0.0000	0.0016	0.0099	0.0038	0.0072	0.0027	0.0003	0.0004	0.0005	
Bal	A	COD	POL	r-OTTER	none	catch	0.0000	0.0067	0.0113	0.0057	0.0343	0.0222	0.0090	0.0039	0.0068	
Bal	A	COD	POL	r-PEL_TRA	none	catch	0.0000	0.0000	0.0010	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	SWE	r-GILL	none	catch	0.0468	0.0581	0.0438	0.0319	0.0314	0.0426	0.0343	0.0239	0.0217	
Bal	A	COD	SWE	r-LONGLIN	none	catch	0.0010	0.0055	0.0077	0.0030	0.0015	0.0020	0.0055	0.0031	0.0041	
Bal	A	COD	SWE	r-OTTER	none	catch	0.0319	0.0374	0.0233	0.0384	0.0452	0.0447	0.0338	0.0156	0.0490	
Bal	A	COD	SWE	r-PEL_TRA	none	catch	0.0000	0.0004	0.0002	0.0002	0.0000	0.0001	0.0000	0.0000	0.0002	
Bal	A	COD	SWE	r-TRAMMI	none	catch	0.0009	0.0011	0.0026	0.0024	0.0010	0.0016	0.0017	0.0026	0.0018	
Sum							0.7083	0.8844	0.8498	0.6743	0.6688	0.6394	0.5218	0.3833	0.3960	
check sum Fpar/F							0.6978	0.8091	0.7994	0.9137	0.946	0.8819	0.8639	0.8652	0.9429	

Effort kW days running previous year baseline						Reference year							
	2003	2004	2005	2006	2007	2008	2009	2010	2011				
Effort plan/ TAC regulations not applicable as days at sea per vessel													
reduction													
Effort estimated (re	8573960	8173479	10389788	8751417	8667963	7503803	6258888	5240966	5047881				
						-0.13	-0.17	-0.16	-0.04				
EFFORT										2003-2011			
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n	
	442	0	0	0	0	3867	0	0	0	NA	NA	2	
	0	7398	1912	23422	37741	38400	42327	9713	13789	0.848	0.008	8	
	786357	662527	1135980	1449940	1457215	1247682	932027	893907	809150	0.852	0.004	9	
	78859	80543	122727	119348	100892	97335	122409	74286	62880	0.342	0.367	9	
	1906314	1753928	1686831	1481387	1491775	1207722	1028646	933844	964057	0.971	0.000	9	
	14111	3975	17039	20699	30856	3443	0	3740	5756	0.949	0.000	8	
	10392	21308	40549	67494	132416	128657	134669	77750	106349	0.957	0.000	9	
	367803	394203	266393	252561	238431	181854	118870	92271	54972	0.953	0.000	9	
	571865	548685	1292689	996895	805567	873961	816545	673772	594059	0.808	0.008	9	
	104894	91833	190411	205287	128411	32694	36906	44680	47635	0.84	0.005	9	
	3376295	2927587	3073583	2063167	1822436	1680846	1460281	1177622	1080463	0.879	0.002	9	
	22012	18696	18809	26922	6249	2881	2744	8255	961	0.948	0.000	9	
	203360	176945	368235	311504	309804	351748	356269	323131	271262	0.522	0.149	9	
	0	0	40887	57436	19041	39051	41349	0	0	0.326	0.592	5	
	0	0	4199	0	0	0	0	4248	0	NA	NA	2	
	0	0	662	0	1269	0	0	0	0	NA	NA	2	
	0	0	12533	0	0	0	0	0	0	NA	NA	1	
	0	0	57602	84342	0	0	0	0	0	NA	NA	2	
	0	0	16799	0	0	0	0	0	0	NA	NA	1	
	79148	142491	171002	161456	80116	12676	3528	11604	6174	0.974	0.000	9	
	880	0	17632	0	18488	0	0	7920	0	NA	NA	4	
	0	236261	331555	199045	325354	228173	135263	84558	80203	0.882	0.004	8	
	0	17962	143615	46306	58736	21615	6891	4502	6288	0.94	0.001	8	
	0	172618	310416	185144	618979	315079	172795	114560	96578	0.947	0.000	8	
	0	2220	16612	1258	2612	0	0	160	0	0.992	0.001	5	
	730577	620542	661911	569385	546464	625243	517212	442913	439498	0.825	0.006	9	
	7730	46041	112396	40756	19061	14536	43369	39643	60377	0.901	0.001	9	
	278503	220717	215686	338505	425898	345385	190277	155830	306992	0.777	0.014	9	
	0	2682	2424	4198	0	720	0	0	1930	0.577	0.308	5	
	34418	29157	58699	45260	45160	50335	95011	62057	38708	0.388	0.301	9	
	8573960	8173479	10389788	8751417	8667963	7503803	6258888	5240966	5047881	0.893	0.001	9	

Table 5.1.14.1.2 The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for landings of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

2008 moving reference year annual F reductions by 10 percent until F=sFmsy=0.25, not to F=0.6							Reference year																				
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012												
F plan							1.015	1.093	1.063	0.738	0.707	0.636	0.572	0.515	0.464	0.418												
reduction F plan												-0.10	-0.10	-0.10	-0.10	-0.10												
F estimated							1.015	1.093	1.063	0.738	0.707	0.725	0.604	0.443	0.420													
reduction F estimated												0.03	-0.17	-0.27	-0.05													
F par estimated as F*landings or discards(fishery)/Catch(total)																												
Regime	Area	Species	Country	Gear	Specon	catch.cate	2003	2004	2005	2006	2007	2008	2009	2010	2011													
Bal	A	COD	DEU	r-BEAM	none	landings	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000													
Bal	A	COD	DEU	r-DEM_SE	none	landings	0.0000	0.0003	0.0014	0.0015	0.0039	0.0085	0.0068	0.0015	0.0017													
Bal	A	COD	DEU	r-GILL	none	landings	0.0370	0.0294	0.0417	0.0524	0.0463	0.0524	0.0304	0.0336	0.0212													
Bal	A	COD	DEU	r-LONGLIN	none	landings	0.0005	0.0011	0.0022	0.0010	0.0005	0.0007	0.0005	0.0009	0.0007													
Bal	A	COD	DEU	r-OTTER	none	landings	0.1288	0.1734	0.1709	0.1491	0.1349	0.1085	0.0914	0.0731	0.0773													
Bal	A	COD	DEU	r-PEL_TRA	none	landings	0.0015	0.0005	0.0013	0.0023	0.0051	0.0002	0.0000	0.0004	0.0003													
Bal	A	COD	DEU	r-TRAMMI	none	landings	0.0001	0.0001	0.0006	0.0009	0.0024	0.0033	0.0021	0.0012	0.0019													
Bal	A	COD	DNK	r-DEM_SE	none	landings	0.0474	0.0620	0.0382	0.0402	0.0388	0.0418	0.0202	0.0133	0.0092													
Bal	A	COD	DNK	r-GILL	none	landings	0.0527	0.0679	0.1097	0.0694	0.0572	0.0638	0.0487	0.0394	0.0359													
Bal	A	COD	DNK	r-LONGLIN	none	landings	0.0123	0.0145	0.0263	0.0144	0.0113	0.0045	0.0043	0.0045	0.0054													
Bal	A	COD	DNK	r-OTTER	none	landings	0.2742	0.3645	0.2662	0.1934	0.1887	0.1881	0.1863	0.1265	0.1316													
Bal	A	COD	DNK	r-PEL_TRA	none	landings	0.0017	0.0011	0.0022	0.0029	0.0005	0.0002	0.0008	0.0010	0.0000													
Bal	A	COD	DNK	r-TRAMMI	none	landings	0.0096	0.0113	0.0169	0.0144	0.0124	0.0155	0.0100	0.0099	0.0093													
Bal	A	COD	EST	r-GILL	none	landings	0.0000	0.0000	0.0022	0.0031	0.0014	0.0045	0.0068	0.0000	0.0000													
Bal	A	COD	EST	r-OTTER	none	landings	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000													
Bal	A	COD	EST	r-PEL_TRA	none	landings	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000													
Bal	A	COD	LTU	r-LONGLIN	none	landings	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000													
Bal	A	COD	LTU	r-OTTER	none	landings	0.0000	0.0000	0.0047	0.0013	0.0000	0.0000	0.0000	0.0000	0.0000													
Bal	A	COD	LTU	r-PEL_TRA	none	landings	0.0000	0.0000	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000													
Bal	A	COD	LVA	r-GILL	none	landings	0.0043	0.0116	0.0149	0.0174	0.0025	0.0010	0.0008	0.0020	0.0006													
Bal	A	COD	LVA	r-OTTER	none	landings	0.0001	0.0000	0.0021	0.0000	0.0047	0.0000	0.0000	0.0025	0.0000													
Bal	A	COD	POL	r-GILL	none	landings	0.0000	0.0149	0.0164	0.0131	0.0241	0.0219	0.0093	0.0048	0.0055													
Bal	A	COD	POL	r-LONGLIN	none	landings	0.0000	0.0016	0.0094	0.0038	0.0072	0.0027	0.0003	0.0004	0.0005													
Bal	A	COD	POL	r-OTTER	none	landings	0.0000	0.0061	0.0113	0.0053	0.0322	0.0209	0.0083	0.0036	0.0057													
Bal	A	COD	POL	r-PEL_TRA	none	landings	0.0000	0.0000	0.0010	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000													
Bal	A	COD	SWE	r-GILL	none	landings	0.0461	0.0573	0.0421	0.0319	0.0314	0.0426	0.0329	0.0234	0.0214													
Bal	A	COD	SWE	r-LONGLIN	none	landings	0.0010	0.0053	0.0075	0.0030	0.0015	0.0020	0.0055	0.0031	0.0041													
Bal	A	COD	SWE	r-OTTER	none	landings	0.0305	0.0355	0.0232	0.0365	0.0416	0.0429	0.0306	0.0141	0.0341													
Bal	A	COD	SWE	r-PEL_TRA	none	landings	0.0000	0.0004	0.0002	0.0002	0.0000	0.0001	0.0000	0.0000	0.0001													
Bal	A	COD	SWE	r-TRAMMI	none	landings	0.0008	0.0011	0.0024	0.0024	0.0010	0.0016	0.0016	0.0025	0.0017													
Sum							0.6486	0.8599	0.8157	0.6600	0.6500	0.6280	0.4976	0.3617	0.3682													
check sum Fpar/F							0.639	0.7867	0.7674	0.8943	0.9194	0.8662	0.8238	0.8165	0.8767													

Effort kW days running previous year baseline						Reference year																					
	2003	2004	2005	2006	2007	2008	2009	2010	2011																		
Effort plan/ TAC regulations not applicable as days at sea per vessel																											
reduction																											
Effort estimated (re	8573960	8173479	10389788	8751417	8667963	7503803	6258888	5240966	5047881																		
						-0.13	-0.17	-0.16	-0.04																		
EFFORT										2003-2011																	
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p		n													
	442	0	0	0	0	3867	0	0	0	NA		NA		2													
	0	7398	1912	23422	37741	38400	42327	9713	13789	0.854		0.007		8													
	786357	662527	1135980	1449940	1457215	1247682	932027	893907	809150	0.852		0.004		9													
	78859	80543	122727	119348	100892	97335	122409	74286	62880	0.333		0.382		9													
	1906314	1753928	1686831	1481387	1491775	1207722	1028646	933844	964057	0.866		0.003		9													
	14111	3975	17039	20699	30856	3443	0	3740	5756	0.949		0.000		8													
	10392	21308	40549	67494	132416	128657	134669	77750	106349	0.945		0.000		9													
	367803	394203	266393	252561	238431	181854	118870	92271	54972	0.944		0.000		9													
	571865	548685	1292689	996895	805567	873961	816945	673772	594059	0.801		0.009		9													
	104894	91833	190411	205287	128411	32694	36906	44680	47835	0.85		0.004		9													
	3376295	2927587	3073583	2063167	1822436	1680846	1460281	1177622	1080463	0.877		0.002		9													
	22012	13696	18809	20622	6246	2881	2744	8255	561	0.945		0.000		9													
	203360	176945	368235	311504	309804	351748	358269	323131	271262	0.508		0.163		9													
	0	0	40887	57436	19041	39051	41348	0	0	0.334		0.583		5													
	0	0	4199	0	0	0	0	4248	0	NA		NA		2													
	0	0	0	662	0	1269	0	0	0	NA		NA		2													
	0	0	12533	0	0	0	0	0	0	NA		NA		1													
	0	0	57602	84342	0	0	0	0	0	NA		NA		2													
	0	0	16799	0	0	0	0	0	0	NA		NA		1													
	79148	142491	171002	161456	80116	12676	3528	11604	6174	0.973		0		9													
	880	0	17632	0	18488	0	0	7920	0	NA		NA		4													
	0	236261	331555	199045	325354	228173	135263	84558	80203	0.873		0.005		8													
	0	17962	143615	46306	59736	21615	6391	4502	6288	0.93		0.001		8													
	0	172618	310416	185144	618979	315079	172795	114560	96578	0.954		0		8													
	0	2220	16612	1258	2612	0	0	160	0	0.992		0.001		5													
	730577	620542	661911	569385	546464	625243	517212	442913	439498	0.825		0.006		9													
	7730	46041	112396	40756	19061	14536	43369	39643	60377	0.896		0.001		9													
	278503	220717	215686	338505	425893	345335	190277	155830	306992	0.819		0.007		9													
	0	2682	2424	4198	0	720	0	0	1930	0.603		0.282		5													
	34418	29157	58699	45260	45160	50335	95011	62057	38708	0.38		0.313		9													
	8573960	8173479	10389788	8751417	8667963	7503803	6258888	5240966	5047881	0.887		0.001		9													

Table 5.1.14.1.3 The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for discards of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

2008 moving reference year annual F reductions by 10 percent until F=sFmsy=0.25, not to F=0.6							Reference year									
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F plan							1.015	1.093	1.063	0.738	0.707	0.636	0.572	0.515	0.464	0.418
reduction F plan												-0.10	-0.10	-0.10	-0.10	-0.10
F estimated							1.015	1.093	1.063	0.738	0.707	0.725	0.604	0.443	0.420	
reduction F estimated												0.03	-0.17	-0.27	-0.05	
F par estimated as F*landings or discards(fishery)/Catch(total)																
Regime	Area	Species	Country	Gear	Specon	catch.cate	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Bal	A	COD	DEU	r-BEAM	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	DEU	r-DEM_SE	none	discards	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	DEU	r-GILL	none	discards	0.0006	0.0006	0.0016	0.0000	0.0000	0.0000	0.0030	0.0010	0.0007	
Bal	A	COD	DEU	r-LONGLIN	none	discards	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	DEU	r-OTTER	none	discards	0.0512	0.0151	0.0184	0.0100	0.0087	0.0079	0.0104	0.0162	0.0101	
Bal	A	COD	DEU	r-PEL_TRA	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	
Bal	A	COD	DEU	r-TRAMMI	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000	
Bal	A	COD	DNK	r-DEM_SE	none	discards	0.0028	0.0038	0.0025	0.0019	0.0037	0.0001	0.0003	0.0002	0.0003	
Bal	A	COD	DNK	r-GILL	none	discards	0.0007	0.0007	0.0046	0.0000	0.0000	0.0000	0.0026	0.0009	0.0000	
Bal	A	COD	DNK	r-LONGLIN	none	discards	0.0001	0.0000	0.0013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	DNK	r-OTTER	none	discards	0.0018	0.0003	0.0006	0.0002	0.0002	0.0004	0.0003	0.0003	0.0000	
Bal	A	COD	DNK	r-PEL_TRA	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	DNK	r-TRAMMI	none	discards	0.0001	0.0001	0.0005	0.0000	0.0000	0.0000	0.0005	0.0000	0.0000	
Bal	A	COD	EST	r-GILL	none	discards	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000	
Bal	A	COD	EST	r-OTTER	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	EST	r-PEL_TRA	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	LTU	r-LONGLIN	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	LTU	r-OTTER	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	LTU	r-PEL_TRA	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	LVA	r-GILL	none	discards	0.0000	0.0001	0.0007	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	
Bal	A	COD	LVA	r-OTTER	none	discards	0.0000	0.0000	0.0000	0.0000	0.0004	0.0000	0.0000	0.0003	0.0000	
Bal	A	COD	POL	r-GILL	none	discards	0.0000	0.0003	0.0007	0.0000	0.0000	0.0000	0.0013	0.0001	0.0001	
Bal	A	COD	POL	r-LONGLIN	none	discards	0.0000	0.0000	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	POL	r-OTTER	none	discards	0.0000	0.0006	0.0000	0.0004	0.0021	0.0013	0.0007	0.0003	0.0012	
Bal	A	COD	POL	r-PEL_TRA	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	SWE	r-GILL	none	discards	0.0007	0.0008	0.0017	0.0000	0.0000	0.0001	0.0014	0.0005	0.0004	
Bal	A	COD	SWE	r-LONGLIN	none	discards	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	SWE	r-OTTER	none	discards	0.0014	0.0019	0.0001	0.0018	0.0036	0.0017	0.0032	0.0015	0.0149	
Bal	A	COD	SWE	r-PEL_TRA	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Bal	A	COD	SWE	r-TRAMMI	none	discards	0.0000	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Sum							0.0594	0.0244	0.0339	0.0143	0.0187	0.0115	0.0243	0.0214	0.0278	
check sum Fpar/F							0.0585	0.0223	0.0319	0.0194	0.0264	0.0159	0.0402	0.0483	0.0662	

Effort kW days running previous year baseline						Reference year												
	2003	2004	2005	2006	2007	2008	2009	2010	2011									
Effort plan/ TAC regulations not applicable as days at sea per vessel																		
reduction																		
Effort estimated (re	8573960	8173479	10389788	8751417	8667963	7503803	6258888	5240966	5047881									
						-0.13	-0.17	-0.16	-0.04									
EFFORT										2003-2011								
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p		n				
	442	0	0	0	0	3867	0	0	0	NA		NA		2				
	0	7398	1912	23422	37741	38400	42327	9713	13789	-0.507		0.2		8				
	786357	662527	1135980	1449940	1457215	1247682	932027	893907	809150	-0.373		0.323		9				
	78859	80543	122727	119348	100892	97335	122409	74286	62880	0.452		0.221		9				
	1906314	1753928	1686831	1481387	1491775	1207722	1028646	933844	964057	0.589		0.095		9				
	14111	3975	17039	20699	30856	3443	0	3740	5756	-0.27		0.518		8				
	10392	21308	40549	67494	132416	128657	134669	77750	106349	0.423		0.256		9				
	367803	394203	266393	252561	238431	181854	118870	92271	54972	0.848		0.004		9				
	571865	548685	1292689	996895	805567	873961	816945	673772	594059	0.624		0.072		9				
	104894	91833	190411	205287	128411	32694	36906	44680	47835	0.53		0.143		9				
	3376295	2927587	3073583	2063167	1822436	1680846	1460281	1177622	1080463	0.709		0.033		9				
	22012	13696	18809	20622	6246	2881	2744	8255	561	0.427		0.251		9				
	203360	176945	368235	311504	309804	351748	358269	323131	271262	0.336		0.377		9				
	0	0	40887	57436	19041	39051	41348	0	0	0.097		0.877		5				
	0	0	4199	0	0	0	0	4248	0	NA		NA		2				
	0	0	662	0	1269	0	0	0	0	NA		NA		2				
	0	0	12533	0	0	0	0	0	0	NA		NA		1				
	0	0	57602	84342	0	0	0	0	0	NA		NA		2				
	0	0	16799	0	0	0	0	0	0	NA		NA		1				
	79148	142491	171002	161456	30116	12676	3528	11604	6174	0.548		0.127		9				
	880	0	17632	0	18488	0	0	7920	0	NA		NA		4				
	0	236261	331555	199045	325354	228173	135263	84558	80203	-0.084		0.936		8				
	0	17962	143615	46306	59736	21615	6891	4502	6288	0.918		0.001		8				
	0	172618	310416	185144	618979	315079	172795	114560	96578	0.657		0.077		8				
	0	2220	16612	1258	2612	0	0	160	0	NA		NA		5				
	730577	620542	661911	569385	546464	625243	517212	442913	439498	0.263		0.495		9				
	7730	46041	112396	40756	19061	14536	43369	39643	60377	0.85		0.004		9				
	278503	220717	215686	338505	425893	345335	190277	155830	306992	0.228		0.556		9				
	0	2682	2424	4198	0	720	0	0	1930	-0.22		0.723		5				
	34418	29157	58699	45260	45160	50335	95011	62057	38708	0.261		0.498		9				
	8573960	8173479	10389788	8751417	8667963	7503803	6258888	5240966	5047881	0.209		0.590		9				

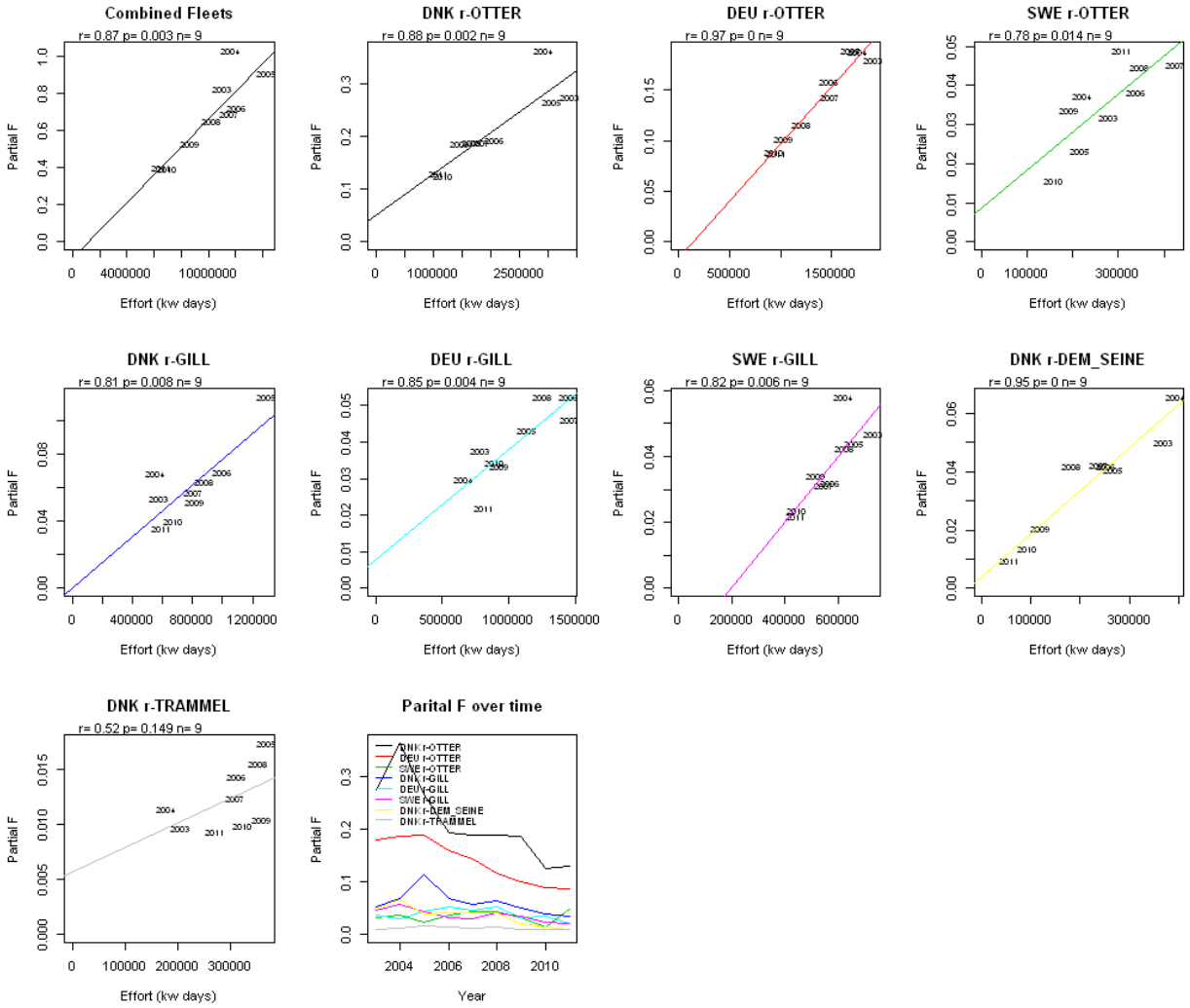


Fig. 5.1.14.1.1 Estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for catches of major fisheries. Note that the panel called combined fleets includes all regulated and unregulated fisheries and that the trends of the fisheries are not separated by special conditions.

5.1.14.2 Eastern Baltic cod in area B

The STECF EWG presents partial fishing mortalities by fisheries using regulated gears and Member States in relation to the estimated fishing mortality by ICES (2012) and the catches (s. Tab. 5.1.14.2.1), landings (s. Tab. 5.1.14.2.2) and discards volumes (s. Tab. 5.1.14.2.3), respectively. The full list of partial fishing mortalities of all fisheries can be downloaded from the EWG's web page. The anticipated trend in fishing mortality and fishing effort in units of kW days at sea as derived from the cod plan is also presented in upper parts of such tables. The sustainable exploitation target is defined as Fmsy=0.3. The trends in fishing effort in units of kWdays at sea of the relevant fisheries are also presented in Table 5.1.14.2.1-3. The presented parameters r (absolute value of Pearson's coefficient of correlation), numbers of points considered as well as a p value to quantify the statistical significance (≤0.05) allow conclusions about the quality of the correlation between the partial F and fisheries specific fishing effort. The trajectories between partial F and fishing effort in are shown in Fig. 5.1.14.2.1.

It can be concluded from the estimated F in 2012 (Table 5.1.14.2.1) that the stock is sustainably exploited and that the annual F reductions had been following the plan since 2008. According to Eero et al. (2012), the stock

recovery is due to increased productivity (recruitment) and improved control over catches. Discard mortality is generally low. The listed effort regulated fisheries do contribute by more than 79% to the total fishing mortality.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for catch and landings of the many effort regulated fisheries and their estimated fishing efforts are highly significant and even significant for the discards.. The partial Fs of most of the Member States fisheries using regulated gears are also closely correlated with their specific effort estimates in kW days at sea. This indicates that effective fisheries management by fishing effort in units of kWdays at sea appears possible, also as an auxiliary measure to catch constraints and technical measures.

Table 5.1.14.2.1 The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for catches of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

2008 moving reference year annual F reductions by 10 percent until F=Fmsy=0.3							Reference year																		
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012										
F plan							0.9526	1.4457	0.9534	0.7801	0.5397	0.486	0.437	0.393	0.354	0.319										
reduction F plan												-0.10	-0.10	-0.10	-0.10	-0.10										
F estimated							0.9526	1.4457	0.9534	0.7801	0.5397	0.2656	0.2625	0.2826	0.2571											
reduction F estimated												-0.51	-0.01	0.08	-0.09										
F par estimated as F*landings or discards(fishery)/Catch(total)																									
Regime	Area	Species	Country	Gear	Specon	catch.cate	2003	2004	2005	2006	2007	2008	2009	2010	2011											
Bal	B	COD	DEU	r-DEM_SE	none	catch	0.0000	0.0000	0.0000	0.0007	0.0006	0.0005	0.0017	0.0012	0.0017											
Bal	B	COD	DEU	r-GILL	none	catch	0.0006	0.0004	0.0030	0.0002	0.0000	0.0000	0.0001	0.0000	0.0000											
Bal	B	COD	DEU	r-LONGLIN	none	catch	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000											
Bal	B	COD	DEU	r-OTTER	none	catch	0.0170	0.0225	0.0270	0.0158	0.0069	0.0122	0.0116	0.0142	0.0042											
Bal	B	COD	DEU	r-PEL_TRA	none	catch	0.0000	0.0325	0.0100	0.0095	0.0085	0.0016	0.0047	0.0066	0.0104											
Bal	B	COD	DNK	r-DEM_SE	none	catch	0.0001	0.0000	0.0015	0.0009	0.0004	0.0000	0.0000	0.0000	0.0004											
Bal	B	COD	DNK	r-GILL	none	catch	0.0112	0.0127	0.0104	0.0083	0.0077	0.0052	0.0041	0.0027	0.0019											
Bal	B	COD	DNK	r-LONGLIN	none	catch	0.0040	0.0050	0.0064	0.0035	0.0019	0.0007	0.0005	0.0008	0.0006											
Bal	B	COD	DNK	r-OTTER	none	catch	0.0608	0.0732	0.0509	0.0758	0.0457	0.0345	0.0345	0.0510	0.0458											
Bal	B	COD	DNK	r-PEL_TRA	none	catch	0.0020	0.0083	0.0030	0.0060	0.0035	0.0001	0.0005	0.0003	0.0002											
Bal	B	COD	DNK	r-TRAMMI	none	catch	0.0001	0.0001	0.0000	0.0000	0.0004	0.0002	0.0003	0.0001	0.0000											
Bal	B	COD	EST	r-GILL	none	catch	0.0000	0.0000	0.0052	0.0034	0.0025	0.0010	0.0008	0.0000	0.0000											
Bal	B	COD	EST	r-OTTER	none	catch	0.0000	0.0000	0.0013	0.0004	0.0007	0.0000	0.0000	0.0031	0.0034											
Bal	B	COD	EST	r-PEL_TRA	none	catch	0.0000	0.0000	0.0017	0.0035	0.0048	0.0039	0.0024	0.0014	0.0031											
Bal	B	COD	LTU	r-GILL	none	catch	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0024	0.0033	0.0014											
Bal	B	COD	LTU	r-LONGLIN	none	catch	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001											
Bal	B	COD	LTU	r-OTTER	none	catch	0.0000	0.0000	0.0004	0.0013	0.0067	0.0000	0.0113	0.0148	0.0133											
Bal	B	COD	LTU	r-PEL_TRA	none	catch	0.0000	0.0000	0.0021	0.0088	0.0170	0.0000	0.0011	0.0001	0.0002											
Bal	B	COD	LVA	r-GILL	none	catch	0.0409	0.0739	0.0364	0.0210	0.0182	0.0118	0.0122	0.0135	0.0085											
Bal	B	COD	LVA	r-OTTER	none	catch	0.0105	0.0136	0.0160	0.0190	0.0106	0.0105	0.0097	0.0144	0.0151											
Bal	B	COD	LVA	r-PEL_TRA	none	catch	0.0004	0.0075	0.0001	0.0019	0.0062	0.0002	0.0007	0.0000	0.0000											
Bal	B	COD	POL	r-GILL	none	catch	0.0000	0.1127	0.0604	0.0414	0.0214	0.0165	0.0182	0.0188	0.0146											
Bal	B	COD	POL	r-LONGLIN	none	catch	0.0000	0.0450	0.0306	0.0284	0.0135	0.0053	0.0028	0.0081	0.0054											
Bal	B	COD	POL	r-OTTER	none	catch	0.0000	0.1183	0.0946	0.0777	0.0383	0.0274	0.0303	0.0377	0.0347											
Bal	B	COD	POL	r-PEL_TRA	none	catch	0.0000	0.0253	0.0039	0.0126	0.0137	0.0002	0.0014	0.0002	0.0009											
Bal	B	COD	SWE	r-GILL	none	catch	0.0534	0.0615	0.0322	0.0187	0.0158	0.0118	0.0098	0.0058	0.0040											
Bal	B	COD	SWE	r-LONGLIN	none	catch	0.0126	0.0254	0.0162	0.0100	0.0053	0.0042	0.0034	0.0025	0.0018											
Bal	B	COD	SWE	r-OTTER	none	catch	0.0954	0.1584	0.0863	0.0744	0.0743	0.0373	0.0407	0.0470	0.0449											
Bal	B	COD	SWE	r-PEL_TRA	none	catch	0.0000	0.0109	0.0054	0.0221	0.0143	0.0011	0.0022	0.0006	0.0036											
Bal	B	COD	SWE	r-TRAMMI	none	catch	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000											
Sum							0.3090	0.8072	0.5051	0.4653	0.3419	0.1862	0.2075	0.2483	0.2202											
check sum Fpar/F							0.3244	0.5583	0.5298	0.5965	0.6335	0.7011	0.7905	0.8786	0.8565											

Effort kW days running previous year baseline									
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Effort plan/ TAC regulations not applicable as days at sea per vessel									
reduction									
Effort estimated (re	8064471	19081740	14201417	15348996	10446576	8703635	6763420	6989501	8068933
						-0.17	-0.22	0.03	0.15
EFFORT									
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011
	0	822	0	11756	9000	7782	19715	26908	38601
	11696	8290	43704	14527	11824	5048	6584	0	0
	10248	11771	15007	9881	11920	17580	12580	6600	2420
	334236	211999	280977	163096	80177	191198	220844	276398	108001
	0	182107	143688	141492	70379	16691	36135	61303	128870
	729	880	8630	9781	4380	0	0	0	7936
	255291	239932	243786	254043	189372	195012	172298	136131	128849
	212604	107249	127573	154932	85371	45181	63747	77366	75291
	1095048	774695	791940	1255868	568490	640633	610697	776245	1067163
	63296	49327	40022	95679	31103	1010	4030	3536	5080
	3108	2064	5598	7550	12631	5910	15546	3693	1185
	0	0	287824	253308	128268	40086	31107	0	0
	0	0	94896	5729	9503	0	0	96642	179832
	0	0	214426	355398	702922	703021	219177	114680	714754
	0	0	93187	55397	90686	128949	107267	104170	78123
	0	0	264	59543	35332	34991	6664	3956	5514
	0	0	342503	192759	170844	382050	286887	332848	398109
	0	0	1100	89918	85447	61407	20974	1764	4420
	1397564	1471236	701180	596896	568781	539579	401856	361015	350477
	458330	322019	242582	350925	186093	229860	198632	218426	473943
	5065	114489	4122	29965	122803	10521	14473	0	0
	0	4339027	2361250	1992875	1556930	1079645	791231	788566	682079
	0	712715	691955	738832	410561	270046	412292	391897	324214
	0	5657875	3902889	4457610	2534977	1715576	1018609	1245924	1021206
	0	921668	193724	628134	440888	21895	36317	3424	24022
	1820884	1485621	1183969	1031157	833204	914404	811692	595833	519421
	316942	373136	345327	321205	162491	198545	200874	176489	208160
	2070339	1942010	1716974	1655822	1151533	1205260	1001145	1169421	1420549
	0	144639	121133	413844	178434	36859	40493	16200	99798
	9096	8169	1237	914	2232	4946	1544	66	916
	8064471	19081740	14201417	15348996	10446576	8703635	6763420	6989501	8068933

2003-2011			
r	p	n	
0.888	0.008	7	
0.96	0.001	7	
0.347	0.360	9	
0.675	0.046	9	
0.782	0.022	8	
0.815	0.048	6	
0.913	0.001	9	
0.663	0.052	9	
0.647	0.059	9	
0.742	0.022	9	
0.819	0.007	9	
0.968	0.007	5	
0.888	0.044	5	
0.835	0.020	7	
0.22	0.635	7	
-0.614	0.143	7	
0.181	0.698	7	
0.751	0.052	7	
0.909	0.001	9	
0.281	0.465	9	
0.999	0	7	
0.981	0	8	
0.91	0.002	8	
0.942	0	8	
0.981	0	8	
0.936	0	9	
0.901	0.001	9	
0.776	0.014	9	
0.958	0	8	
0.823	0.006	9	
0.950	0.000	9	

Table 5.1.14.2.2 The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for landings of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

2008 moving reference year annual F reductions by 10 percent until F=Fmsy=0.3							Reference year										Effort kW days running previous year baseline												
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2003	2004	2005	2006	2007	2008	2009	2010	2011			
F plan							0.9526	1.4457	0.9534	0.7801	0.5397	0.486	0.437	0.393	0.354	0.319	Effort plan/ TAC regulations not applicable as days at sea per vessel												
reduction F plan												-0.10	-0.10	-0.10	-0.10	-0.10	reduction												
F estimated							0.9526	1.4457	0.9534	0.7801	0.5397	0.2656	0.2625	0.2826	0.2571		Effort estimated (re	8064471	19081740	14201417	15348996	10446576	8703635	6763420	6989501	8068933				
reduction F estimated												-0.51	-0.01	0.08	-0.09								-0.17	-0.22	0.03	0.15				
F par estimated as F*landings or discards(fishery)/Catch(total)																														
Regime	Area	Species	Country	Gear	Specon	catch.cate	2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n	
Bal	B	COD	DEU	r-DEM_SE	none	landings	0.0000	0.0000	0.0000	0.0007	0.0006	0.0005	0.0017	0.0012	0.0017			0	822	0	11756	9000	7782	19715	26908	38601	0.888	0.008	7	
Bal	B	COD	DEU	r-GILL	none	landings	0.0006	0.0004	0.0029	0.0002	0.0000	0.0000	0.0001	0.0000	0.0000			11696	8290	43704	14527	11824	5048	6594	0	0	0.96	0.001	7	
Bal	B	COD	DEU	r-LONGLIN	none	landings	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			10248	11771	15007	9881	11920	17580	12580	6600	2420	0.347	0.360	9	
Bal	B	COD	DEU	r-OTTER	none	landings	0.0161	0.0218	0.0263	0.0133	0.0058	0.0115	0.0103	0.0129	0.0038			334236	211999	280977	163096	80177	191198	220844	276398	108001	0.679	0.044	9	
Bal	B	COD	DEU	r-PEL_TRA	none	landings	0.0000	0.0321	0.0097	0.0081	0.0085	0.0015	0.0043	0.0064	0.0090			0	182107	143688	141492	70379	16691	36135	61303	128870	0.76	0.029	8	
Bal	B	COD	DNK	r-DEM_SE	none	landings	0.0001	0.0000	0.0015	0.0009	0.0004	0.0000	0.0000	0.0000	0.0004			729	880	8630	9781	4380	0	0	0	7936	0.815	0.048	6	
Bal	B	COD	DNK	r-GILL	none	landings	0.0110	0.0125	0.0101	0.0080	0.0072	0.0050	0.0040	0.0024	0.0019			255291	239932	243786	254043	189372	195012	172298	136131	128849	0.914	0.001	9	
Bal	B	COD	DNK	r-LONGLIN	none	landings	0.0039	0.0050	0.0063	0.0035	0.0019	0.0007	0.0005	0.0007	0.0006			212604	107249	127573	154932	85371	45181	63747	77366	75291	0.66	0.053	9	
Bal	B	COD	DNK	r-OTTER	none	landings	0.0599	0.0718	0.0496	0.0716	0.0445	0.0337	0.0339	0.0498	0.0458			1095043	774695	791940	1255868	568490	640633	610697	776245	1067163	0.643	0.062	9	
Bal	B	COD	DNK	r-PEL_TRA	none	landings	0.0020	0.0083	0.0029	0.0060	0.0035	0.0001	0.0005	0.0003	0.0002			63296	49327	40022	95679	31103	1010	4030	3536	5080	0.744	0.022	9	
Bal	B	COD	DNK	r-TRAMMI	none	landings	0.0001	0.0001	0.0000	0.0000	0.0004	0.0002	0.0003	0.0001	0.0000			3108	2064	5598	7550	12631	5910	15546	3693	1185	0.819	0.007	9	
Bal	B	COD	EST	r-GILL	none	landings	0.0000	0.0000	0.0000	0.0003	0.0022	0.0010	0.0008	0.0000	0.0000			0	0	287824	253308	128268	40086	31107	0	0	0.967	0.007	5	
Bal	B	COD	EST	r-OTTER	none	landings	0.0000	0.0000	0.0012	0.0003	0.0006	0.0000	0.0000	0.0028	0.0029			0	0	94896	5729	9503	0	0	96642	179832	0.888	0.044	5	
Bal	B	COD	EST	r-PEL_TRA	none	landings	0.0000	0.0000	0.0017	0.0031	0.0044	0.0035	0.0023	0.0014	0.0026			0	0	214426	355398	702922	703021	219177	114680	714754	0.805	0.029	7	
Bal	B	COD	LTU	r-GILL	none	landings	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0023	0.0025	0.0014			0	0	93187	55397	90686	128949	107267	104170	78123	0.206	0.658	7	
Bal	B	COD	LTU	r-LONGLIN	none	landings	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001			0	0	264	59543	35332	34991	6664	3956	5514	-0.614	0.143	7	
Bal	B	COD	LTU	r-OTTER	none	landings	0.0000	0.0000	0.0004	0.0012	0.0066	0.0000	0.0104	0.0136	0.0128			0	0	342503	192759	170844	382050	286887	332848	398109	0.178	0.703	7	
Bal	B	COD	LTU	r-PEL_TRA	none	landings	0.0000	0.0000	0.0020	0.0088	0.0170	0.0000	0.0011	0.0001	0.0002			0	0	1100	89918	85447	61407	20974	1764	4420	0.752	0.051	7	
Bal	B	COD	LVA	r-GILL	none	landings	0.0399	0.0709	0.0353	0.0202	0.0163	0.0113	0.0118	0.0123	0.0081			1397564	1471236	701180	596996	568781	539579	401856	361015	350477	0.913	0.001	9	
Bal	B	COD	LVA	r-OTTER	none	landings	0.0099	0.0131	0.0156	0.0178	0.0102	0.0096	0.0090	0.0128	0.0135			458330	322019	242582	350925	186093	229860	198632	218426	473943	0.256	0.506	9	
Bal	B	COD	LVA	r-PEL_TRA	none	landings	0.0004	0.0073	0.0001	0.0016	0.0074	0.0002	0.0006	0.0000	0.0000			5065	114489	4122	29965	122803	10521	14473	0	0	0.998	0	7	
Bal	B	COD	POL	r-GILL	none	landings	0.0000	0.1094	0.0586	0.0398	0.0201	0.0161	0.0175	0.0174	0.0139			0	4339027	2361250	1992875	1556930	1079645	791231	788566	682079	0.981	0	8	
Bal	B	COD	POL	r-LONGLIN	none	landings	0.0000	0.0445	0.0302	0.0284	0.0135	0.0053	0.0026	0.0072	0.0052			0	712715	691955	738832	410561	270046	412292	391897	324214	0.911	0.002	8	
Bal	B	COD	POL	r-OTTER	none	landings	0.0000	0.1125	0.0886	0.0698	0.0334	0.0258	0.0278	0.0344	0.0309			0	5657875	3902889	4457610	2534977	1715576	1018609	1245924	1021206	0.935	0.001	8	
Bal	B	COD	POL	r-PEL_TRA	none	landings	0.0000	0.0249	0.0039	0.0124	0.0135	0.0002	0.0013	0.0001	0.0008			0	921668	193724	628134	440888	21895	36317	3424	24022	0.98	0	8	
Bal	B	COD	SWE	r-GILL	none	landings	0.0521	0.0607	0.0312	0.0181	0.0149	0.0114	0.0093	0.0057	0.0038			1820884	1485621	1183969	1031157	833204	914404	811692	595833	519421	0.934	0	9	
Bal	B	COD	SWE	r-LONGLIN	none	landings	0.0122	0.0251	0.0159	0.0100	0.0053	0.0042	0.0031	0.0022	0.0017			316942	373136	345327	321205	162491	198545	200874	176489	208160	0.901	0.001	9	
Bal	B	COD	SWE	r-OTTER	none	landings	0.0818	0.1495	0.0754	0.0596	0.0599	0.0335	0.0356	0.0430	0.0387			2070339	1942010	1716974	1655822	1151533	1205260	1001145	1169421	1420549	0.75	0.02	9	
Bal	B	COD	SWE	r-PEL_TRA	none	landings	0.0000	0.0104	0.0054	0.0177	0.0120	0.0009	0.0020	0.0006	0.0027			0	144639	121133	413844	178434	36859	40493	16200	99798	0.938	0.001	8	
Bal	B	COD	SWE	r-TRAMMI	none	landings	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			9096	8169	1237	914	2232	4946	1544	66	916	0.823	0.006	9	
Sum							0.2900	0.7803	0.4799	0.4244	0.3101	0.1762	0.1932	0.2300	0.2027			8064471	19081740	14201417	15348996	10446576	8703635	6763420	6989501	8068933	0.943	0.000	9	
check sum Fpar/F							0.3044	0.5397	0.5034	0.544	0.5746	0.6634	0.736	0.8139	0.7884															

Table 5.1.14.2.3 The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for discards of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

2008 moving reference year annual F reductions by 10 percent until F<=Fmsy=0.3							Reference year																										
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012																		
F plan							0.9526	1.4457	0.9534	0.7801	0.5397	0.486	0.437	0.393	0.354	0.319																		
reduction F plan												-0.10	-0.10	-0.10	-0.10	-0.10																		
F estimated							0.9526	1.4457	0.9534	0.7801	0.5397	0.2656	0.2625	0.2826	0.2571																			
reduction F estimated												-0.51	-0.01	0.08	-0.09																		
F par estimated as F*landings or discards(fishery)/Catch(total)																																	
Regime	Area	Species	Country	Gear	Specon	catch.cate	2003	2004	2005	2006	2007	2008	2009	2010	2011																		
Bal	B	COD	DEU	r-DEM_SE	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																		
Bal	B	COD	DEU	r-GILL	none	discards	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																		
Bal	B	COD	DEU	r-LONGLIN	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																		
Bal	B	COD	DEU	r-OTTER	none	discards	0.0009	0.0008	0.0007	0.0024	0.0011	0.0007	0.0013	0.0013	0.0005																		
Bal	B	COD	DEU	r-PEL_TRA	none	discards	0.0000	0.0005	0.0004	0.0014	0.0009	0.0001	0.0004	0.0002	0.0014																		
Bal	B	COD	DNK	r-DEM_SE	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																		
Bal	B	COD	DNK	r-GILL	none	discards	0.0002	0.0003	0.0003	0.0003	0.0005	0.0002	0.0001	0.0002	0.0000																		
Bal	B	COD	DNK	r-LONGLIN	none	discards	0.0001	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000																		
Bal	B	COD	DNK	r-OTTER	none	discards	0.0009	0.0014	0.0012	0.0042	0.0012	0.0007	0.0007	0.0012	0.0000																		
Bal	B	COD	DNK	r-PEL_TRA	none	discards	0.0000	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																		
Bal	B	COD	DNK	r-TRAMMI	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																		
Bal	B	COD	EST	r-GILL	none	discards	0.0000	0.0000	0.0002	0.0001	0.0002	0.0000	0.0000	0.0000	0.0000																		
Bal	B	COD	EST	r-OTTER	none	discards	0.0000	0.0000	0.0001	0.0001	0.0001	0.0000	0.0000	0.0003	0.0004																		
Bal	B	COD	EST	r-PEL_TRA	none	discards	0.0000	0.0000	0.0000	0.0005	0.0004	0.0004	0.0002	0.0000	0.0005																		
Bal	B	COD	LTU	r-GILL	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0007	0.0000																		
Bal	B	COD	LTU	r-LONGLIN	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																		
Bal	B	COD	LTU	r-OTTER	none	discards	0.0000	0.0000	0.0000	0.0001	0.0001	0.0000	0.0010	0.0012	0.0005																		
Bal	B	COD	LTU	r-PEL_TRA	none	discards	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																		
Bal	B	COD	LVA	r-GILL	none	discards	0.0010	0.0031	0.0012	0.0008	0.0019	0.0004	0.0004	0.0012	0.0004																		
Bal	B	COD	LVA	r-OTTER	none	discards	0.0005	0.0005	0.0004	0.0012	0.0004	0.0009	0.0007	0.0016	0.0015																		
Bal	B	COD	LVA	r-PEL_TRA	none	discards	0.0000	0.0002	0.0000	0.0003	0.0008	0.0000	0.0001	0.0000	0.0000																		
Bal	B	COD	POL	r-GILL	none	discards	0.0000	0.0033	0.0018	0.0015	0.0013	0.0004	0.0007	0.0013	0.0007																		
Bal	B	COD	POL	r-LONGLIN	none	discards	0.0000	0.0005	0.0004	0.0000	0.0000	0.0000	0.0002	0.0009	0.0001																		
Bal	B	COD	POL	r-OTTER	none	discards	0.0000	0.0059	0.0060	0.0078	0.0050	0.0016	0.0025	0.0033	0.0039																		
Bal	B	COD	POL	r-PEL_TRA	none	discards	0.0000	0.0004	0.0000	0.0002	0.0002	0.0000	0.0000	0.0000	0.0001																		
Bal	B	COD	SWE	r-GILL	none	discards	0.0013	0.0008	0.0010	0.0006	0.0009	0.0004	0.0005	0.0002	0.0002																		
Bal	B	COD	SWE	r-LONGLIN	none	discards	0.0003	0.0003	0.0003	0.0000	0.0000	0.0000	0.0002	0.0003	0.0001																		
Bal	B	COD	SWE	r-OTTER	none	discards	0.0136	0.0089	0.0109	0.0148	0.0143	0.0038	0.0051	0.0040	0.0062																		
Bal	B	COD	SWE	r-PEL_TRA	none	discards	0.0000	0.0005	0.0000	0.0044	0.0022	0.0002	0.0002	0.0000	0.0008																		
Bal	B	COD	SWE	r-TRAMMI	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																		
Sum							0.0188	0.0275	0.0253	0.0407	0.0315	0.0098	0.0144	0.0180	0.0173																		
check sum Fpar/F							0.0197	0.019	0.0265	0.0522	0.0584	0.0369	0.0549	0.0637	0.0673																		

Effort kW days running previous year baseline																																	
							2003	2004	2005	2006	2007	2008	2009	2010	2011																		
Effort plan/ TAC regulations not applicable as days at sea per vessel																																	
reduction																																	
Effort estimated (re	8064471	19081740	14201417	15348996	10446576	8703635	6763420	6989501	8068933																								
EFFORT																													2003-2011				
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n																					
	0	822	0	11756	9000	7782	19715	26908	38601	NA	NA	7																					
	11696	8290	43704	14527	11824	5048	6594	0	0	0.931	0.002	7																					
	10248	11771	15007	9881	11920	17580	12580	6600	2420	NA	NA	9																					
	334236	211999	280977	163096	80177	191198	220844	276398	108001	-0.065	0.868	9																					
	0	182107	143688	141492	70379	16691	36135	61303	128870	0.457	0.255	8																					
	729	880	8630	9781	4380	0	0	0	7936	NA	NA	6																					
	255291	239932	243786	254043	189372	195012	172298	136131	128849	0.417	0.265	9																					
	212604	107249	127573	154932	85371	45181	63747	77366	75291	0.479	0.192	9																					
	1095043	774695	791940	1255868	568490	640633	610697	776245	1067163	0.491	0.180	9																					
	63296	49327	40022	95679	31103	1010	4030	3536	5080	0.184	0.636	9																					
	8108	2064	5598	7550	12631	5910	15546	3693	1185	NA	NA	9																					
	0	0	287824	253908	128268	40080	31107	0	0	0.661	0.223	5																					
	0	0	94896	5729	9503	0	0	96642	179832	0.84	0.075	5																					
	0	0	214426	355398	702922	703021	219177	114680	714754	0.797	0.032	7																					
	0	0	93187	55397	90686	128949	107267	104170	78123	0.224	0.629	7																					
	0	0	264	59543	35332	34991	6664	3956	5514	NA	NA	7																					
	0	0	342503	192759	170844	382050	286887	332848	398109	0.193	0.678	7																					
	0	0	1100	89918	85447	61407	20974	1764	4420	-0.406	0.367	7																					
	1397564	1471236	701180	596996	568781	539579	401856	361015	350477	0.628	0.07	9																					
	458330	322019	242582	350925	186093	229860	198632	218426	473943	0.256	0.506	9																					
	5065	114489	4122	29965	122803	10521	14473	0	0	0.776	0.04	7																					
	0	4339027	2361250	1992875	1556930	1079645	791231	788566	682079	0.942	0	8																					
	0	712715	691955	738832	410961	270046	412292	391897	324214	0.154	0.715	8																					
	0	5657875	3902889	4457610	2534977	1715576	1018609	1245924	1021206	0.808	0.015	8																					
	0	921668	193724	628134	440888	21895	86317	3424	24022	0.929	0.001	8																					
	1820884	1485621	1183969	1031157	833204	914404	811692	595833	519421	0.865	0.003	9																					
	316942	373136	345327	321205	162491	198545	200874	176489	208160	0.428	0.25	9																					
	2070339	1942010	1716974	1655822	1151533	1205260	1001145	1169421	1420549	0.539	0.134	9																					
	0	144639	121133	413844	178434	36859	40493	16200	99798	0.939	0.001	8																					
	9096	8169	1237	914	2232	4946	1544	66	916	NA	NA	9																					
	8064471	19081740	14201417	15348996	10446576	8703635	6763420	6989501	8068933	0.695	0.038	9																					

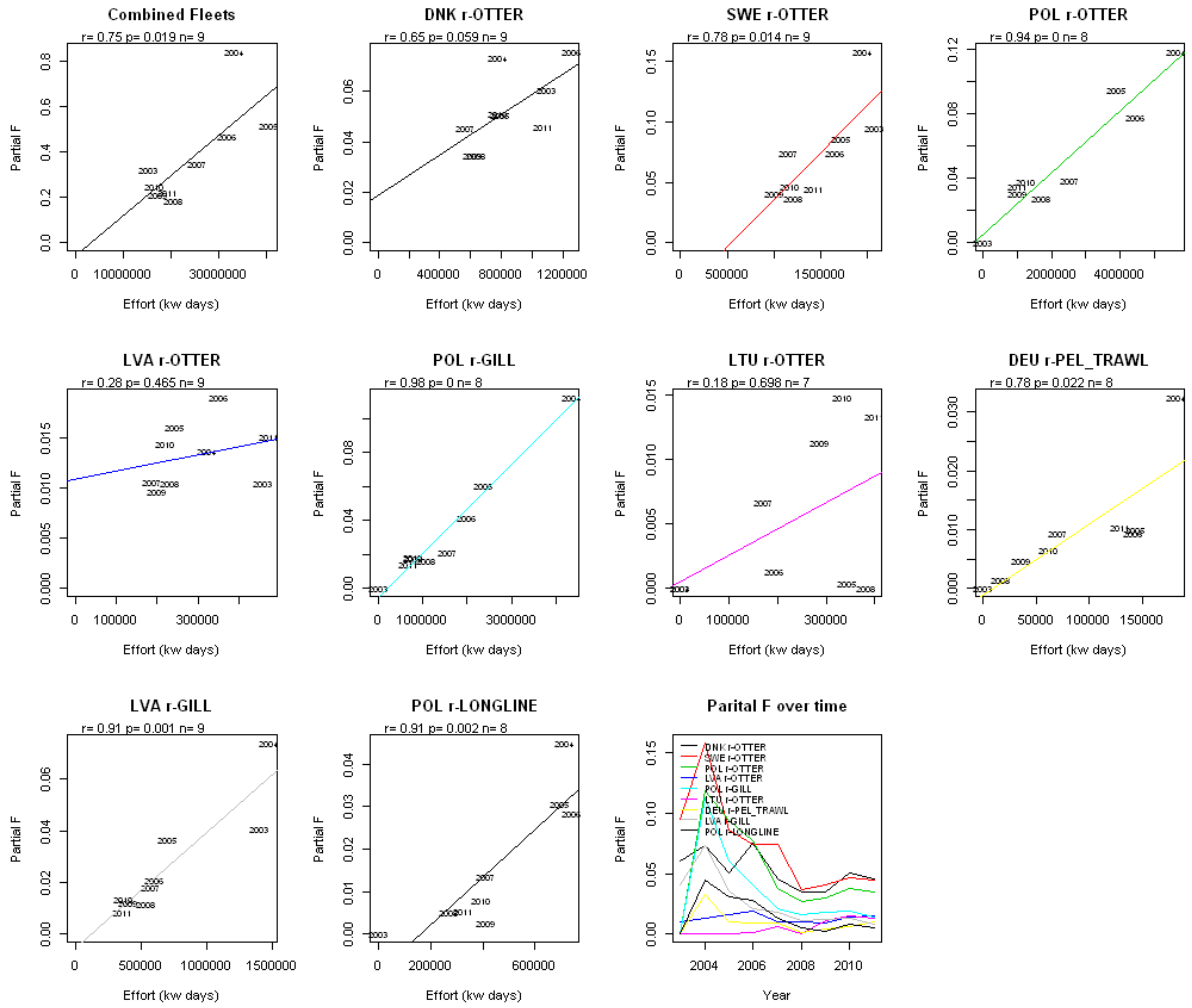


Fig. 5.1.14.2.1 Estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for catches of major fisheries. Note that the panel called combined fleets includes all regulated and unregulated fisheries and that the trends of the fisheries are not separated by special conditions.

5.1.15 ToR 11 Spatio-temoral pattern in standardized catchability indices for cod

The STECF EWG 12-06 and 12-12 discussed this task, elaborated and applied a specific method described in section 4.9 of the present report. STECF 12-12 performed the analyses using DCF data from the 2012 DCF data call to support fishing effort regime evaluations and Baltic Sea survey data (BITS) 2004-2011, i.e. station data and catch data for the years 2004-2011 and the quarters 1 and 4, covering the late autumn and winter months in any given year. Only hauls assigned valid and with haul duration equal or longer the 20 min. were considered. Cod catches were standardized to kg/hour.

The data base of scientific survey data is provided at ICES DATRAS web page: http://datras.ices.dk/Data_products/Download/Download_Data_public.aspx

Figure 5.1.15.1 displays the cod CPUE from the BITS survey in 2011, and averaged over the years 2004 to 2011. In 2011, it appears that the cod distribuion in the Baltic Sea is more truncated towards the central and southern Baltic Sea than observed on average.

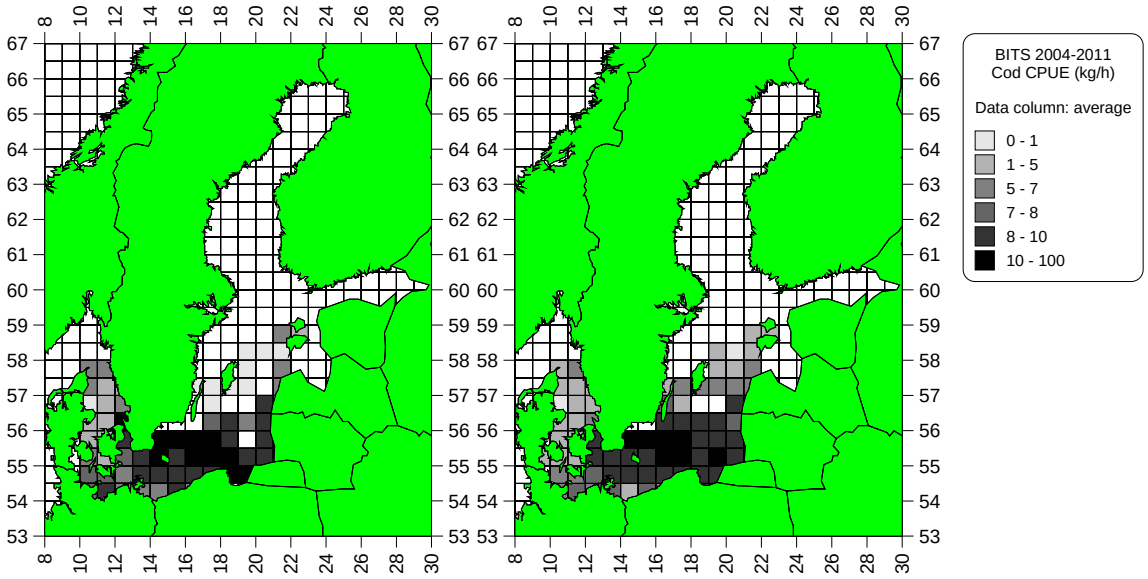


Fig. 5.1.15.1. Average annual Baltic Sea BITS Q1-4 CPUE indices (kg/hours) per rectangle for cod in 2011 (left panel) and averaged over 2004-2011 (right panel).

A comparison of the estimated cod catches (landings and estimated discards) per rectangle in 2011 and averaged for the years 2003-2011 leads to the similar effect of a more truncated cod distribution in the central and southern Baltic in 2011. STECF EWG 12-12 notes that the cod catches of the rectangles, in which the three temporary closed areas 1-3 (Council Regulation (EC) No 1098/2007) are located, appear not significantly reduced, as compared with landings of the surrounding rectangles.

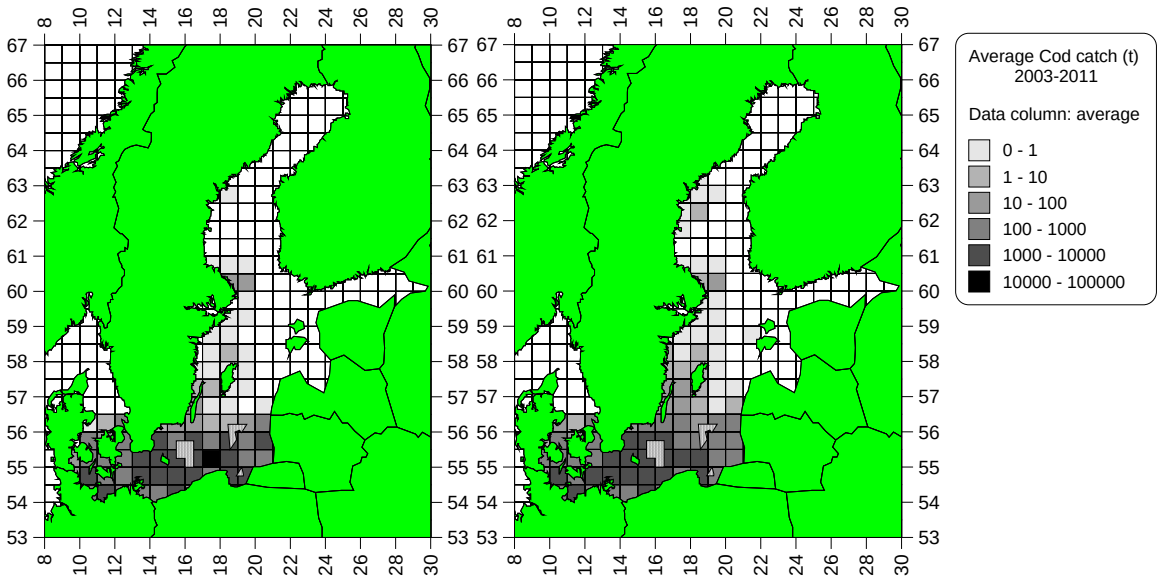


Fig. 5.1.15.2. Annual cod catches of effort regulated gear groups per rectangle in 2011 (left panel) and averaged for the period 2003-2011 (right panel). Three temporary closed areas are shown as dotted areas.

The following Fig. 5.1.15.3 displays the spatio-temporal patterns in fishing effort in units of hours fished of all regulated gears, again for 2011 and averaged for the period 2003-2011. Also the fishing effort seems to follow the trend of a recent concentration towards the central and southern Baltic Sea. STECF EWG 12-12 notes that the fishing effort in units of trawled hours of the rectangles, in which the three temporary closed areas 1-3 (Council Regulation (EC) No 1098/2007) are located, appear not significantly reduced, as compared with fishing effort deployed in the surrounding rectangles.

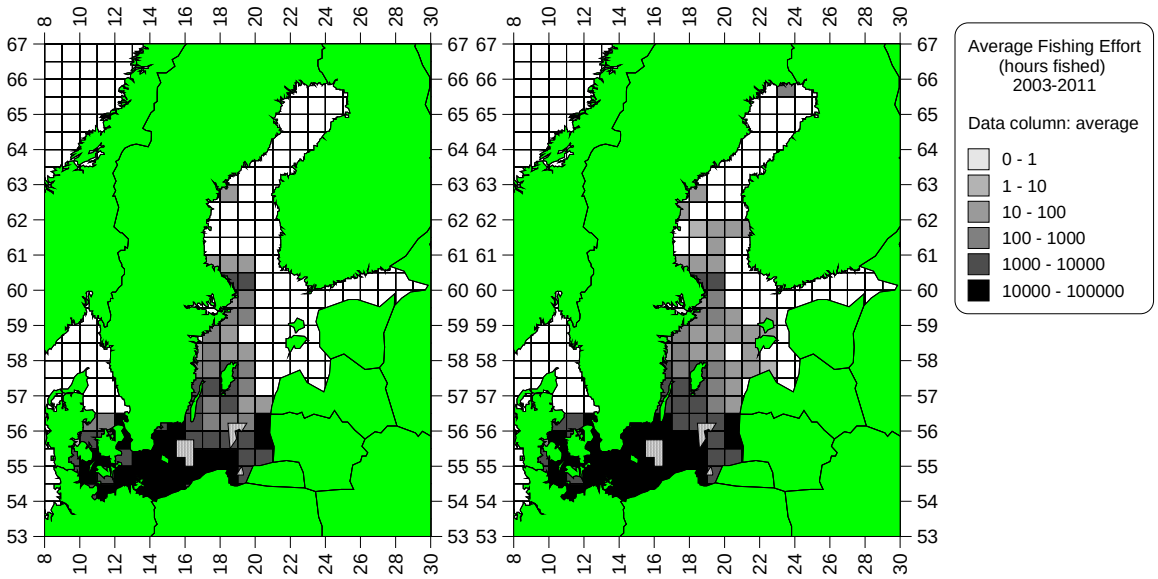


Fig. 5.1.15.3. Annual fishing effort (hours fished) of effort regulated gear groups per rectangle in 2011 (left panel) and averaged for the period 2003-2011 (right panel). Three temporary closed areas are shown as dotted areas.

STECF EWG 12-12 notes that the resulting patterns of catchability in these specific management areas represent case studies and do not form the basis for any management advice. The resulting spatio-temporal patterns in cod catchability indices are plotted in Fig. 5.1.15.4. STECF EWG 12-12 notes that the catchability indices appear more evenly distributed in 2011 and averaged for 2004-2011 than the survey abundance indices (CPUE rates from survey) and the catches as well as fishing effort. STECF EWG 12-12 notes that the estimated catchability of the rectangles, in which the three temporary closed areas 1-3 (Council Regulation (EC) No 1098/2007) are located, appear not significantly reduced, as compared with catchabilty of the surrounding rectangles.

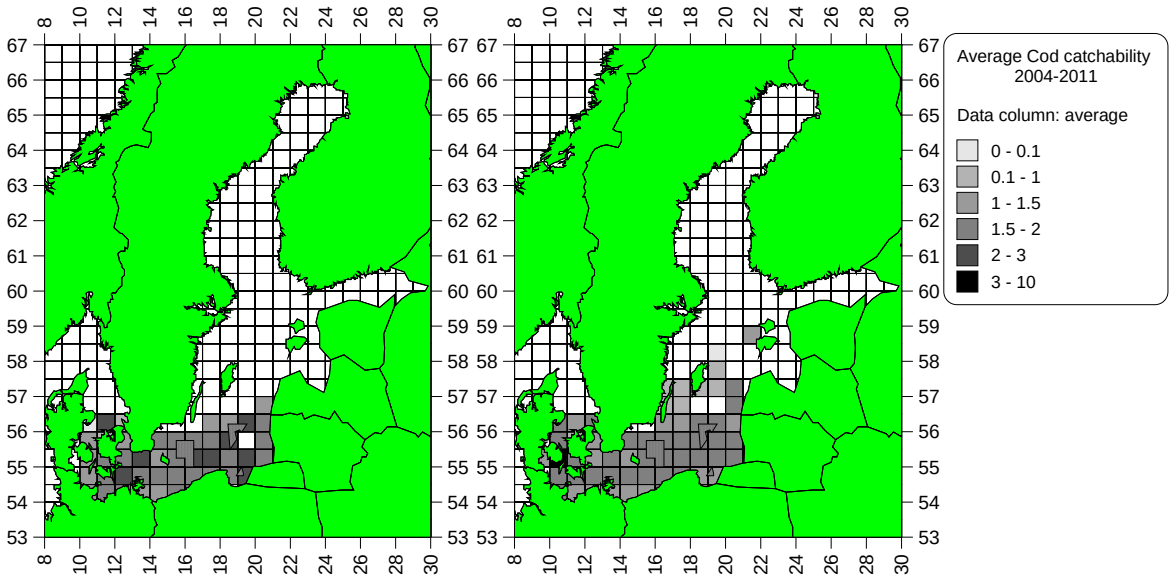


Fig. 5.1.15.4. Cod catchability generated by regulated gear groups per rectangle in 2011 (left panel) and averaged for the period 2004-2011 (right panel). Three temporary closed areas are shown as dotted areas. STECF EWG 12-12 notes that the resulting patterns of catchability in these specific management areas represent case studies and do not form the basis for any management advice.

5.2 Kattegat effort regime evaluation in the context of Annex IIA to Council Regulation (EC) No 57/2011)

5.2.1 ToR 1.a Fishing effort in kWdays, GTdays and number of vessels by Member State and fisheries

Trends in effort by the new cod plan gear groups and by country are shown in Table (5.2.2.1). The total effort in the Kattegat decreased by 36% between 2005 and 2011. The total regulated effort has decreased by 44% since 2005 and by 16% between 2010 and 2011. Table (5.2.2.2) summarises the aggregated effort by regulated cod plan gear categories and derogations. TR2 dominates the effort in recent years. Table 5.2.2.3 lists the effort deployed by non-regulated gears, respectively.

Table 5.2.2.1 Kattegat: Trend in nominal effort (kW*days at sea) by regulated gear group and country. 2005-2011. The gear category TR2 does not include effort carried out under the derogation CPart11 (from 2009 and onwards) or IIA83b (2005-2008).

REG AREA	REG GEAR	COUNTRY	2005	2006	2007	2008	2009	2010	2011	rel 2005	rel 2010
3a	GN1	DEU	26827	38486	39725	31562	23156	19526	21484	0.80	1.10
		DNK	130267	104450	72977	66270	83095	66976	46211	0.35	0.69
		SWE	9609	14748	14949	32697	33120	32270	27481	2.86	0.85
	GT1	DNK	28221	24922	12119	11758	23209	14225	11408	0.40	0.80
		SWE	12833	19178	34170	29266	17518	26612	25205	1.96	0.95
	LL1	DNK		220			406		221		
		SWE	10684	27478	37856	25234					
	TR1	DEU	4985	5262	5526	1964					
		DNK	205850	193619	186575	158868	104096	69037	48671	0.24	0.70
		SWE	24870	5160	19799	57592	6985	13626	1006	0.04	0.07
	TR2	DEU	7505	10318	35338	38716	19918	30730	13670	1.82	0.44
		DNK	2547492	2254222	2026307	2148493	2214066	2385563	1998979	0.78	0.84
		SWE	932268	1062871	1041966	920320	436355	284594	271686	0.29	0.95
	TR3	DEU									
		DNK	485616	358274	306240	152411	95897	36383	25572	0.05	0.70
		SWE			1470		1148				
Total			4427027	4119208	3835017	3675151	3058969	2979542	2491594	0.56	0.84

Table 5.2.2.2 Kattegat: Trend in nominal effort (kW*days at sea) by regulated gear group and derogation 2005-2011. Note that all Danish and German TR2 effort is under the TR2 CPart13 derogation from 2010 and onwards, meaning that all TR2 'none' effort from 2010 is Swedish.

AREA	GEAR	SPECON	2005	2006	2007	2008	2009	2010	2011	rel. 2005	rel. 2010
3a	GN1	none	166703	157684	127651	130529	139371	118772	95176	0.57	0.80
	GT1	none	41054	44100	46289	41024	40727	40837	36613	0.89	0.90
	LL1	none	10684	27698	37856	25234	406		221	0.02	
	TR1	none	235705	204041	211900	218424	111081	82663	49677	0.21	0.60
	TR2	CPART13						2405583	2003159		0.83
		none	3487265	3327411	3103611	3107529	2670339	295304	281176	0.08	0.95
	TR3	none	485616	358274	307710	152411	97045	36383	25572	0.05	0.70
Total			4427027	4119208	3835017	3675151	3058969	2979542	2491594	0.56	0.84

Table 5.2.2.3 Trend in nominal effort (kW*days at sea) of unregulated gears in Kattegat 2005-2011. Sweden is the only country using the derogation Cpart11/IIIA83b.

AREA	GEAR	SPECON	2005	2006	2007	2008	2009	2010	2011	rel 2005	rel 2010
3a	TR2	CPART11					415194	482432	426638		0.88
		IIA83B	113989	165425	233076	307336				0.00	
	DEM_SEINE	none	354								
	DREDGE	none	33713	39802	50977	55259	36768	36517	51741	1.53	1.42
	none	none	8924	17261	15766	24584	47342	41620	21348	2.39	0.51
	OTTER	none	189643	258570	200213	157752	232709	75844	30403	0.16	0.40
	PEL_SEINE	none	25640	52976	32560	16157	11000	19876	19160	0.75	0.96
	PEL_TRAWL	none	448473	374703	349489	192363	378195	300799	329370	0.73	1.09
	POTS	none	65450	75311	86516	75233	64289	29897	32929	0.50	1.10
Total			886186	984048	968597	828684	1185497	986985	911589	1.03	0.92

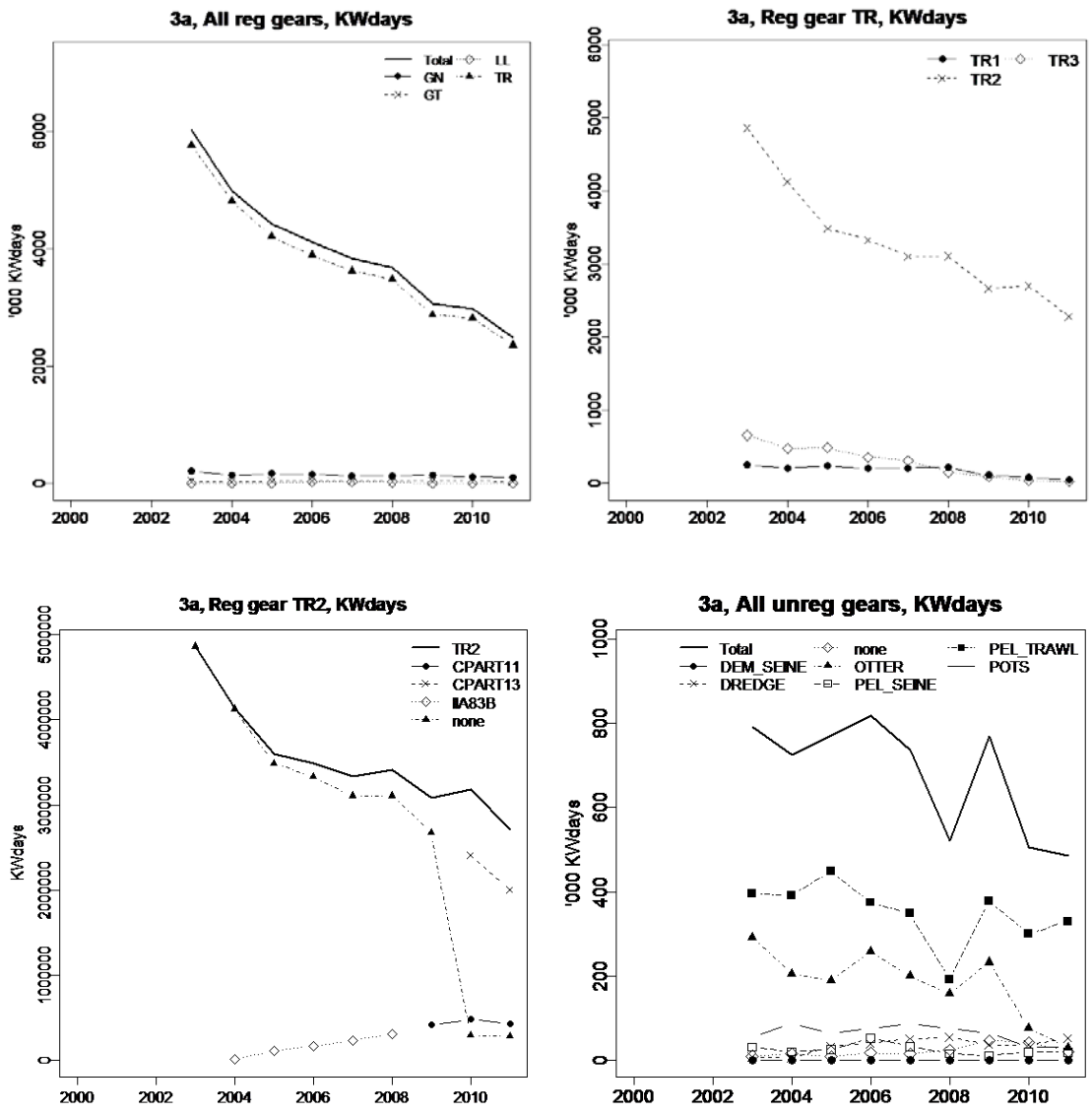


Figure 5.2.2.1. Kattegat: Top left: Trend in nominal effort (Kw *days at sea) by regulated gear types, 2000-2011. TR=Demersal trawl, BT=Beam trawl, GN=Gillnet, GT=Trammel net, LL=Longline. Note that the derogations CPart11 and IIA83b are not included in the TR gear category since they are considered unregulated.

Top right: effort by gear types within gear group TR; TR1=mesh size ≥100mm; TR2=mesh size ≥70, ≤100mm; TR3 ≥16, ≤32 mm. The derogations CPart11 and IIA83b are not included in the TR2 category.

Bottom left: Effort by derogation within gear type TR2. Note that the derogations CPart11 and IIA83b are included here for comparison with the regulated TR2 gear categories.

Bottom right: effort by unregulated gear categories. CPart11 and IIA83b are not shown here but are shown in the bottom left figure for comparison with the regulated TR2 gear categories.

All Danish and German TR2 'none' effort from 2010 onwards are used under the provisions of article 13 of the cod plan. The Swedish TR2 effort is in the TR2 none and TR2 CPart11. The total TR2 effort (top right figure) decreased rapidly from 2003 to 2005. From 2006 and onwards the effort decreased more slowly.

The effort deployed in Gross tonnage days (GTdays) and number of vessels are not described in this report but can be found on the STECF EWG 12-12 website under the Final Report section: : http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

5.2.2 ToR 1.b and c Catches (landings and discards) of cod and non-cod species in weight and numbers at age by fisheries

STECF EWG 12-12 presents the requested cod in weight by fisheries. Age specific data are available on the internet page of the STECF EWG 12-12: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12..

Table 5.2.2.1. Kattegat landings (L), discards (D) and discard rate (R) of cod (COD), Nephrops (NEP), plaice (PLE), sole (SOL) and whiting (WGH) by gear category and derogation 2005-2011, including the unregulated CPart11 and IIA83b. Note that there are no Danish discard data for NEP, PLE, SOL and WGH reported on the derogation CPart13 in 2010 in the table below. For information, the Danish discard data for TR2 Cpart 13 in 2010 was as follows: Nephrops (NEP)=721 tonnes, Plaice (PLE)=304 tonnes, Sole (Sol)=10 tonnes, Whiting (WHG)=173 tonnes.

ANNEX	SPECIES	AREA	GEAR	SPECON	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
IIa	COD	3a	GN1	none	26	0	0	25	0	0	28	0	0	45	0	0	13	0	0	10	0	0	3	0	0
IIa	COD	3a	GT1	none	7	0	0	3	0	0	4	0	0	3	0	0	1	0	0	1	0	0	0	0	0
IIa	COD	3a	LL1	none	1	0	0	3	0	0	0	0	0	14	0	0			0			0			0
IIa	COD	3a	TR1	none	117	57	0.33	49	9	0.16	83	47	0.36	32	4	0.11	17	12	0.41	4	0	0	1	0	0
IIa	COD	3a	TR2	CPART11			0			0			0			0	0	13	1	0	10	1	0	3	1
IIa	COD	3a	TR2	CPart13			0			0			0			0			0	82	71	0.46	78	35	0.31
IIa	COD	3a	TR2	IIA83b	0	3	1	0	3	1	0	6	1	0	2	1			0			0			0
IIa	COD	3a	TR2	none	630	470	0.43	629	661	0.51	452	396	0.47	299	165	0.36	121	75	0.38	27	10	0.27	38	22	0.37
IIa	COD	3a	TR3	none	14	0	0	36	0	0	7	0	0	7	0	0	0	0	0			0	0	0	0
IIa	NEP	3a	GN1	none	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0
IIa	NEP	3a	GT1	none	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
IIa	NEP	3a	TR1	none	6	0	0	5	0	0	29	226	0.89	63	166	0.72	17	12	0.41	35	33	0.49	20	0	0
IIa	NEP	3a	TR2	CPART11			0			0			0			0	241	216	0.47	264	192	0.42	202	122	0.38
IIa	NEP	3a	TR2	CPart13			0			0			0			0			0	1697	0	0	1091	197	0.15
IIa	NEP	3a	TR2	IIA83b	46	37	0.45	51	41	0.45	95	75	0.44	129	129	0.5			0			0			0
IIa	NEP	3a	TR2	none	1424	1023	0.42	1194	1006	0.46	1583	1435	0.48	1780	1781	0.5	1627	918	0.36	133	120	0.47	101	67	0.4
IIa	NEP	3a	TR3	none	1	0	0	2	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0
IIa	PLE	3a	GN1	none	74	0	0	70	0	0	62	0	0	59	0	0	26	0	0	21	0	0	10	0	0
IIa	PLE	3a	GT1	none	36	0	0	44	0	0	28	0	0	39	0	0	6	0	0	10	0	0	6	0	0
IIa	PLE	3a	LL1	none			0			0			0			0			0			0			0
IIa	PLE	3a	TR1	none	392	175	0.31	468	184	0.28	434	225	0.34	272	99	0.27	181	71	0.28	54	183	0.77	59	0	0
IIa	PLE	3a	TR2	CPART11			0			0			0			0	3	37	0.92	3	26	0.9	1	30	0.97
IIa	PLE	3a	TR2	CPart13			0			0			0			0			0	249	0	0	197	253	0.56
IIa	PLE	3a	TR2	IIA83b	0	8	1	0	9	1	1	17	0.94	2	20	0.91			0			0			0
IIa	PLE	3a	TR2	none	479	462	0.49	675	398	0.37	572	566	0.5	467	261	0.36	287	316	0.52	35	94	0.73	14	58	0.81
IIa	PLE	3a	TR3	none	7	0	0	1	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0
IIa	SOL	3a	GN1	none	107	0	0	101	0	0	64	0	0	57	0	0	71	0	0	57	0	0	60	0	0
IIa	SOL	3a	GT1	none	17	0	0	16	0	0	15	0	0	16	0	0	14	0	0	21	0	0	20	0	0
IIa	SOL	3a	TR1	none	9	0	0	17	0	0	9	5	0.36	7	1	0.12	2	0	0	2	0	0	1	0	0
IIa	SOL	3a	TR2	CPART11			0			0			0			0	1	8	0.89	2	2	0.5	2	3	0.6
IIa	SOL	3a	TR2	CPart13			0			0			0			0			0	130	0	0	148	6	0.04
IIa	SOL	3a	TR2	IIA83b	1	0	0	0	0	0	1	0	0	1	1	0.5			0			0			0
IIa	SOL	3a	TR2	none	244	26	0.1	264	17	0.06	209	15	0.07	211	16	0.07	166	10	0.06	6	0	0	4	0	0
IIa	SOL	3a	TR3	none	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IIa	WHG	3a	GN1	none	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0			0
IIa	WHG	3a	GT1	none	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0
IIa	WHG	3a	LL1	none	0	0	0	0	0	0	0	0	0			0			0			0			0
IIa	WHG	3a	TR1	none	3	25	0.89	0	0	0	2	13	0.87	2	8	0.8	1	3	0.75	0	1	1	0	0	0
IIa	WHG	3a	TR2	CPART11			0			0			0			0	1	17	0.94	1	13	0.93	1	18	0.95
IIa	WHG	3a	TR2	CPart13			0			0			0			0			0	8	0	0	7	84	0.92
IIa	WHG	3a	TR2	IIA83b	1	1	0.5	1	1	0.5	1	2	0.67	1	12	0.92			0			0			0
IIa	WHG	3a	TR2	none	66	832	0.93	73	770	0.91	65	659	0.91	42	384	0.9	23	163	0.88	7	38	0.84	5	35	0.88
IIa	WHG	3a	TR3	none	431	0	0	333	0	0	173	0	0	170	0	0	54	0	0	16	0	0	13	0	0

Detailed information by country is downloadable and provided on the STECF EWG 12-12 website: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg12

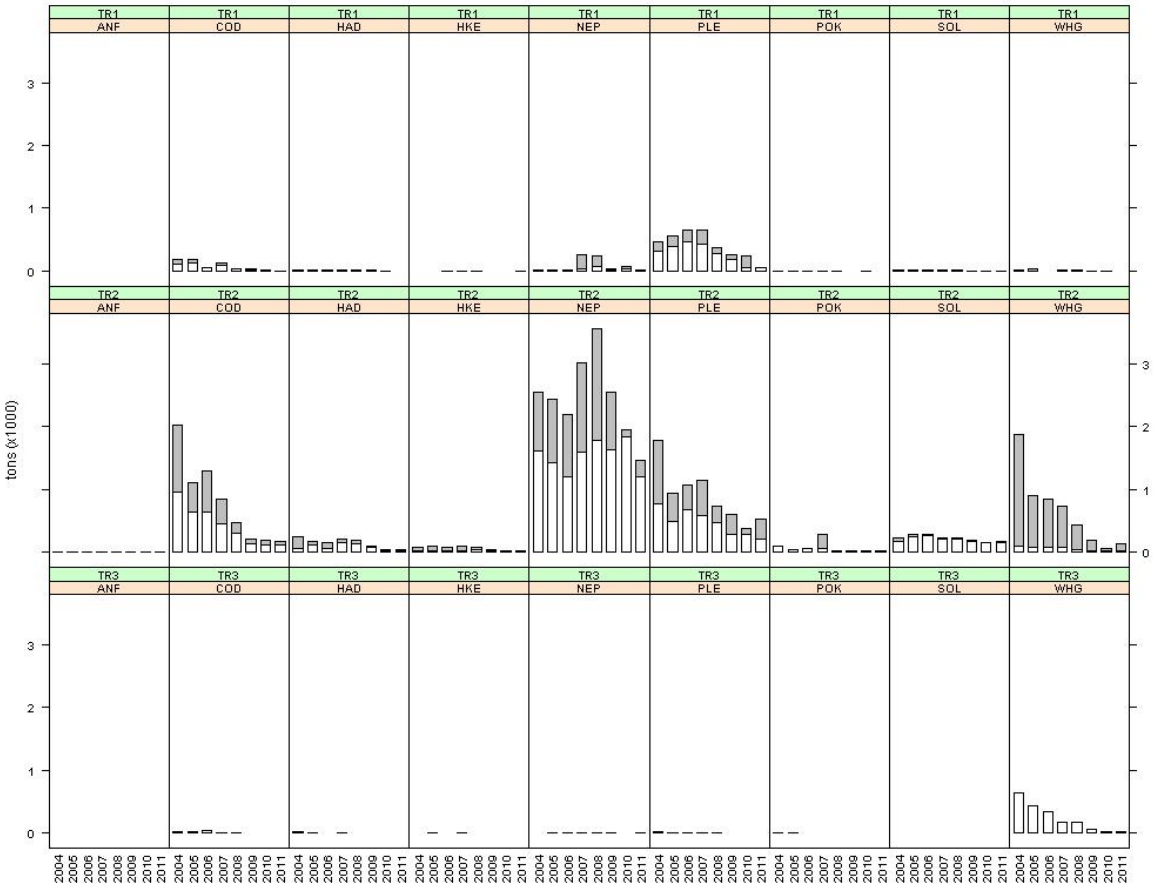


Figure 5.2.2.2. Landings (white) and discards (grey) in tonnes by the regulated gear categories TR1, TR2 and TR3 and by species in Kattegat 2004-2011. Note that there are no Danish discards other than for cod in the TR2 gear category 2010 in this figure. For information, the Danish discard data for TR2 in 2010 was as follows: Nephrops (NEP)=721 tonnes, Plaice (PLE)=304 tonnes, Sole (Sol)=10 tonnes, Whiting (WHG)=173 tonnes. The derogations CPart11 and IIA83b are not included in the TR2 gear category above.

Table 5.2.2.2 Unregulated gears, landings (t) of cod 2005-2011. Landings for CPart11 and IIA83b are not shown in this table, since they are shown in table 5.2.2.1.

ANNEX	SPECIES	REG_AREA	REG_GEAR	SPECON	COUNTRY	2005 L	2006 L	2007 L	2008 L	2009 L	2010 L	2011 L
IIa	COD	3a	DEM_SEINE	none	DNK	0	0	0	0	0	0	0
IIa	COD	3a	none	none	DNK	6	10	1	0	0	0	0
IIa	COD	3a	none	none	SWE	0	0	0	0	0	0	0
IIa	COD	3a	OTTER	none	DNK	7	14	1	0	0	0	0
IIa	COD	3a	OTTER	none	SWE	5	4	5	4	9	3	1
IIa	COD	3a	PEL_TRAWL	none	DNK	5	15	1	0	0	0	0
IIa	COD	3a	PEL_TRAWL	none	SWE	0	0	4	0	0	0	0
IIa	COD	3a	POTS	none	DNK	0	0	0	0	0	0	0
IIa	COD	3a	POTS	none	SWE	0	0	0	0	0	0	0

Table 5.2.2.3. Unregulated gears, landings of plaice 2005-2011. Landings for CPart11 and IIA83b are not shown in this table, since they are shown in table 5.2.2.1.

ANNEX	SPECIES	REG_AREA	REG_GEAR	SPECON	COUNTRY	2005 L	2006 L	2007 L	2008 L	2009 L	2010 L	2011 L
IIa	PLE	3a	DEM_SEINE	none	DNK	1	0	0	0	0	0	0
IIa	PLE	3a	none	none	DNK	1	4	7	2	1	2	0
IIa	PLE	3a	OTTER	none	DEU	0	0	0	0	0	0	0
IIa	PLE	3a	OTTER	none	DNK	1	4	2	1	0	0	0
IIa	PLE	3a	OTTER	NONE	SWE	0	1	1	1	3	2	0
IIa	PLE	3a	PEL_TRAWL	none	DNK	0	0	0	0	0	0	0
IIa	PLE	3a	POTS	none	DNK	0	0	0	0	0	0	0

Table 5.2.2.4 Unregulated gears, landings of sole 2005-2011. Landings for CPart11 and IIA83b are not shown in this table, since they are shown in Table 5.2.2.1.

ANNEX	SPECIES	REG_AREA	REG_GEAR	SPECON	COUNTRY	2005 L	2006 L	2007 L	2008 L	2009 L	2010 L	2011 L
IIa	SOL	3a	DEM_SEINE	none	DNK	0	0	0	0	0	0	0
IIa	SOL	3a	none	none	DNK	2	2	3	1	0	0	0
IIa	SOL	3a	OTTER	none	DEU	0	0	0	0	0	0	0
IIa	SOL	3a	OTTER	none	DNK	0	1	0	0	0	0	0
IIa	SOL	3a	OTTER	none	SWE	0	0	0	0	0	0	0
IIa	SOL	3a	PEL_TRAWL	none	DNK	0	0	0	0	0	0	0
IIa	SOL	3a	POTS	none	DNK	0	0	0	0	0	0	0

5.2.3 ToR 1.d CPUE and LPUE of cod by fisheries and Member States

STECF EWG 12-12 presents the estimated trends in CPUE and LPUE for cod, plaice and sole in figures and tables below. CPUE and LPUE by gear and Member State is not presented in this report but can be found on the JRC website: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

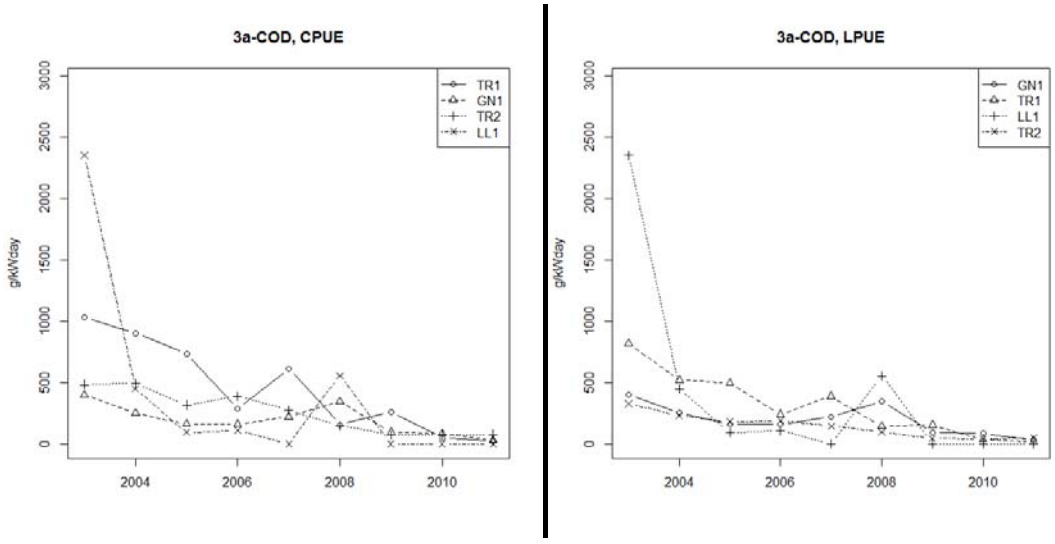


Figure 5.2.3.1 Left: CPUE (g/kWday) of cod by gear category (no special condition). Right: LPUE (g/kWday) of cod by gear category 2003-2011. CPUE and LPUE for the derogations CPart11 and IIA83b are not included in the TR2 gear category in this figure.

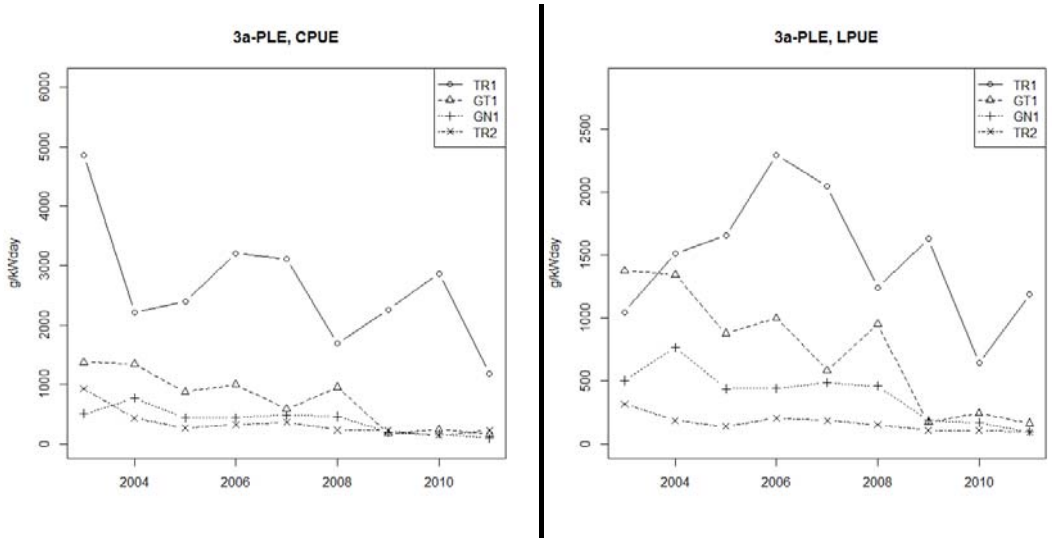


Figure 5.2.3.2 Left: CPUE (g/kWday) of plaice by gear category (no special condition). Right: LPUE (g/kWday) of plaice by gear category 2003-2011. CPUE and LPUE for the derogations CPart11 and IIA83b are not included in the TR2 gear category in this figure. There are no Danish discard data included in the CPUE calculation for TR2 in 2010. With the Danish discard information included, the CPUE of Plaice of TR2 2010 is 980 g/kWd

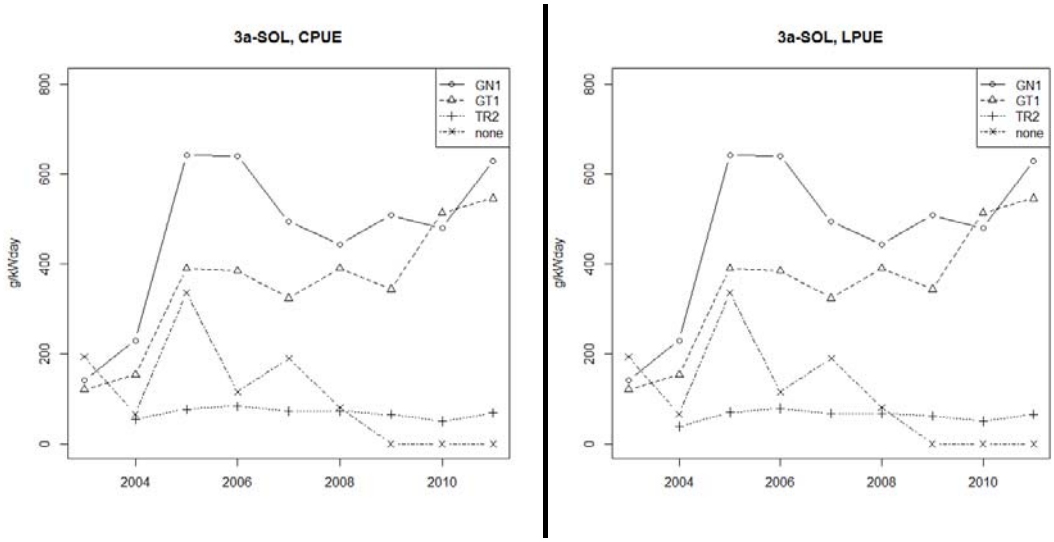


Figure 5.2.3.3 Left: CPUE (g/kWday)of sole by gear category (no special condition). Right: LPUE (g/kWday) of sole by gear category 2003-2011. CPUE and LPUE for the derogations CPart11 and IIA83b are not included in the TR2 gear category in this figure. There is no Danish discard data included in the CPUE calculation for TR2 in 2010. With the Danish discard information included, the CPUE of sole of TR2 2010 is 47 g/kWd.

Table 5.2.3.1. CPUE (g/kWd) of cod, sole, plaice by gear and derogation 2004-2011. Danish discard information for TR2 in 2010 was included in the calculation.

ANNEX	SPECIES	REG AREA	REG GEAR	SPECON	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	CPUE 2009-2011
IIa	COD	3a	GN1	none	251	162	159	219	345	93	84	32	74
IIa	COD	3a	GT1	none	538	146	68	86	73	25	0	0	8
IIa	COD	3a	LL1	none	449	94	108	0	555	0	0	0	0
IIa	COD	3a	TR1	none	903	734	289	613	156	261	48	20	140
IIa	COD	3a	TR2	CPART11	0	0	0	0	0	34	21	9	21
IIa	COD	3a	TR2	CPART13	0	0	0	0	0	0	64	57	61
IIa	COD	3a	TR2	IIA83B		26	18	30	7	0	0	0	0
IIa	COD	3a	TR2	none	491	316	388	273	149	73	129	210	90
IIa	COD	3a	TR3	none	54	29	100	23	46	0	0	0	0
IIa	PLE	3a	GN1	none	766	438	444	486	460	187	168	95	156
IIa	PLE	3a	GT1	none	1344	877	998	583	951	172	245	164	195
IIa	PLE	3a	LL1	none						0	0	0	0
IIa	PLE	3a	TR1	none	2209	2401	3200	3110	1694	2260	2867	1188	2247
IIa	PLE	3a	TR2	CPART11	0	0	0	0	0	96	60	73	76
IIa	PLE	3a	TR2	CPART13	0	0	0	0	0	0	230	224	159
IIa	PLE	3a	TR2	IIA83B		70	60	73	72	0	0	0	0
IIa	PLE	3a	TR2	none	430	270	322	367	234	225	437	256	247
IIa	PLE	3a	TR3	none	19	14	3	13	0	0	0	0	0
IIa	SOL	3a	GN1	none	230	642	641	494	444	509	480	630	532
IIa	SOL	3a	GT1	none	154	390	385	324	390	344	514	546	465
IIa	SOL	3a	TR1	none	19	42	78	66	27	18	12	20	16
IIa	SOL	3a	TR2	CPART11	0	0	0	0	0	22	6	9	12
IIa	SOL	3a	TR2	CPART13	0	0	0	0	0	0	58	77	64
IIa	SOL	3a	TR2	IIA83B		0	0	4	10	0	0	0	0
IIa	SOL	3a	TR2	none	55	77	84	72	73	65	20	11	56
IIa	SOL	3a	TR3	none	0	0	0	0	0	0	0	0	0

Table 5.2.3.2 LPUE (g/kWd) of cod, sole and plaice by gear and derogation 2004-2011

ANNEX	SPECIES	REG AREA	REG GEAR	SPECON	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
IIa	COD	3a	GN1	none	251	162	159	219	345	93	84	32	74
IIa	COD	3a	GT1	none	538	146	68	86	73	25	0	0	8
IIa	COD	3a	LL1	none	449	94	108	0	555	0	0	0	0
IIa	COD	3a	TR1	none	521	496	240	387	142	153	36	20	86
IIa	COD	3a	TR2	CPART11	0	0	0	0	0	0	0	0	0
IIa	COD	3a	TR2	CPART13	0	0	0	0	0	0	35	39	37
IIa	COD	3a	TR2	IIA83B		0	0	0	0	0	0	0	0
IIa	COD	3a	TR2	none	233	180	189	145	96	45	91	135	57
IIa	COD	3a	TR3	none	54	29	100	23	46	0	0	0	0
IIa	PLE	3a	GN1	none	766	438	444	486	460	187	168	95	156
IIa	PLE	3a	GT1	none	1344	877	998	583	951	172	245	164	195
IIa	PLE	3a	LL1	none						0	0	0	0
IIa	PLE	3a	TR1	none	1515	1659	2294	2048	1241	1629	641	1188	1204
IIa	PLE	3a	TR2	CPART11	0	0	0	0	0	10	6	2	6
IIa	PLE	3a	TR2	CPART13	0	0	0	0	0	0	104	98	101
IIa	PLE	3a	TR2	IIA83B		0	0	0	3	0	0	0	0
IIa	PLE	3a	TR2	none	187	137	202	184	150	107	119	50	103
IIa	PLE	3a	TR3	none	19	14	3	13	0	0	0	0	0
IIa	SOL	3a	GN1	none	230	642	641	494	444	509	480	630	532
IIa	SOL	3a	GT1	none	154	390	385	324	390	344	514	546	465
IIa	SOL	3a	TR1	none	19	42	78	42	27	18	12	20	16
IIa	SOL	3a	TR2	CPART11	0	0	0	0	0	0	4	5	3
IIa	SOL	3a	TR2	CPART13	0	0	0	0	0	0	54	74	63
IIa	SOL	3a	TR2	IIA83B		0	0	4	3	0	0	0	0
IIa	SOL	3a	TR2	none	39	70	79	67	68	62	17	11	54
IIa	SOL	3a	TR3	none	0	0	0	0	0	0	0	0	0

5.2.4 ToR 2 Rank regulated gear groups on the basis of catches expressed both in weight and in number of cod

STECF EWG 12-12 presents the gear groups ranked to their relative importance of catches and landings of cod, Nephrops, plaice and sole in 2011.

Table 5.2.4.1 Ranked regulated gear categories according to the proportional catches of cod, Nephrops, plaice and sole 2003-2011. There is no Danish discard information for TR2 in 2010 other than for cod included in this table. Note that the derogations CPart11 and IIA83b are not included in the TR2 category below.

ANNEX	AREA	SPECIES	GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
IIa	3a	COD	TR2	0.83	0.88	0.83	0.91	0.83	0.82	0.82	0.93	0.97
IIa	3a	COD	GN1	0.03	0.02	0.02	0.02	0.03	0.08	0.05	0.05	0.02
IIa	3a	COD	TR1	0.09	0.08	0.13	0.04	0.13	0.06	0.12	0.02	0.01
IIa	3a	COD	TR3	0.03	0.01	0.01	0.03	0.01	0.01	0.00	0.00	0.00
IIa	3a	COD	GT1	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
IIa	3a	COD	LL1	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
IIa	3a	NEP	TR2	0.99	1.00	1.00	1.00	0.92	0.94	0.99	0.97	0.98
IIa	3a	NEP	TR1	0.01	0.00	0.00	0.00	0.08	0.06	0.01	0.03	0.01
IIa	3a	NEP	GT1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IIa	3a	NEP	TR3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IIa	3a	NEP	GN1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IIa	3a	PLE	TR2	0.77	0.74	0.58	0.58	0.60	0.61	0.68	0.59	0.87
IIa	3a	PLE	TR1	0.20	0.19	0.35	0.35	0.35	0.31	0.28	0.37	0.10
IIa	3a	PLE	GN1	0.02	0.05	0.05	0.04	0.03	0.05	0.03	0.03	0.02
IIa	3a	PLE	GT1	0.01	0.01	0.02	0.02	0.01	0.03	0.01	0.02	0.01
IIa	3a	PLE	TR3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IIa	3a	PLE	LL1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IIa	3a	SOL	TR2	1.00	0.84	0.67	0.68	0.71	0.74	0.67	0.63	0.66
IIa	3a	SOL	GN1	0.00	0.12	0.27	0.24	0.20	0.19	0.27	0.26	0.25
IIa	3a	SOL	GT1	0.00	0.01	0.04	0.04	0.05	0.05	0.05	0.10	0.08
IIa	3a	SOL	TR1	0.00	0.02	0.02	0.04	0.04	0.02	0.01	0.01	0.00
IIa	3a	SOL	TR3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 5.2.4.2 Ranked regulated gear categories according to the proportional landings of cod, Nephrops, plaice and sole 2003-2011. Note that the derogations CPart11 and IIA83b are not included in the TR2 category in this table.

ANNEX	AREA	SPECIES	GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
IIa	3a	COD	TR2	0.80	0.84	0.79	0.84	0.79	0.75	0.80	0.88	0.97
IIa	3a	COD	GN1	0.04	0.03	0.03	0.03	0.05	0.11	0.09	0.08	0.03
IIa	3a	COD	TR1	0.10	0.09	0.15	0.07	0.14	0.08	0.11	0.03	0.01
IIa	3a	COD	TR3	0.04	0.02	0.02	0.05	0.01	0.02	0.00		0.00
IIa	3a	COD	GT1	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00
IIa	3a	COD	LL1	0.01	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
IIa	3a	NEP	TR2	0.99	1.00	0.99	0.99	0.98	0.97	0.99	0.98	0.98
IIa	3a	NEP	TR1	0.01	0.00	0.00	0.00	0.02	0.03	0.01	0.02	0.02
IIa	3a	NEP	GT1	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
IIa	3a	NEP	TR3	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IIa	3a	NEP	GN1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IIa	3a	PLE	TR2	0.78	0.62	0.48	0.54	0.52	0.56	0.57	0.77	0.74
IIa	3a	PLE	TR1	0.13	0.26	0.40	0.37	0.39	0.32	0.36	0.15	0.21
IIa	3a	PLE	GN1	0.06	0.09	0.07	0.06	0.06	0.07	0.05	0.06	0.03
IIa	3a	PLE	GT1	0.03	0.03	0.04	0.03	0.03	0.05	0.01	0.03	0.02
IIa	3a	PLE	TR3	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
IIa	3a	PLE	LL1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IIa	3a	SOL	TR2	0.74	0.79	0.65	0.66	0.70	0.73	0.66	0.63	0.65
IIa	3a	SOL	GN1	0.19	0.16	0.28	0.25	0.22	0.20	0.28	0.26	0.26
IIa	3a	SOL	GT1	0.03	0.02	0.05	0.04	0.05	0.05	0.06	0.10	0.09
IIa	3a	SOL	TR1	0.03	0.02	0.02	0.04	0.03	0.02	0.01	0.01	0.00
IIa	3a	SOL	TR3	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.2.5 ToR 3 Remarks on quality of catches and discard estimates

The STECF EWG 12-12 expresses overall high confidence in the data and results.

5.2.6 ToR 4 Information on small boats (<10m)

5.2.6.1 Fishing effort of small boats by Member State

Vessels <10m LOA are exempted from the effort regulation in Kattegat with regard to the cod plan.

Swedish and Danish nominal effort data for vessels <10m LOA is not considered reliable until 2009 and 2010 respectively and it is not possible to conclude anything over the whole time series (Table 5.2.6.1.1). Data will be updated to next year. However, the Swedish effort in the gear category TR2 has increased from 4801kWd in 2009 to 36719kWd in 2011. Between 2010 and 2011 the Danish nominal effort deployed by small vessels was fairly stable, 289374 and 297343kWd respectively.

No Swedish data of number of vessels <10m LOA was submitted until 2009 and Danish effort data of number of small vessels is not considered reliable until 2010. However, the number of vessels <10m LOA operating in Kattegat (Table 5.2.6.2) has increased slightly between 2010 and 2011.The number of Swedish vessels in the TR2 fishery increased from 7 to 14 between 2010 and 2011.

Table 5.6.1.1. Nominal effort (kW*days at sea) of vessels <10m LOA in Kattegat 2005-2011. The Swedish and Danish effort in the table is not considered reliable until 2009 and 2010 respectively.

AREA	GEAR	SPECON	COUNTRY	2005	2006	2007	2008	2009	2010	2011	rel. 2005	rel. 2010
3a	GN1	none	DEU		378							
3a	GN1	none	SWE	8969	13797	10737	8132	62122	93134	45170	5.04	0.49
3a	GT1	none	SWE	2480	4581	5574	3920	38574	41407	25114	10.13	0.61
3a	LL1	none	SWE	3652	2882	6088	5726		209	55	0.02	0.26
3a	none	none	DNK	752	636	666	154	696	289374	297343	395.40	1.03
3a	none	none	SWE	185				37960	21438	21887	118.31	1.02
3a	OTTER	none	SWE					128				
3a	PEL_SEINE	none	SWE				128					
3a	POTS	none	SWE	13180	33804	13819	13096	134604	182519	105753	8.02	0.58
3a	TR1	none	SWE			154		828	966	1242		1.29
3a	TR2	CPART11	SWE					2891	7932	4607		0.58
3a	TR2	IIA83B	SWE	2610	4789	8658	8757					
3a	TR2	none	SWE	7008	4298	3734	3031	4801	17516	36719	5.24	2.10

Table 5.6.1.2. Number of vessels >10m LOA operating Kattegat by gear group 2009-2011.

GEAR	COUNTRY	2009	2010	2011	rel 2010
GN1	SWE	18	15	13	0.87
GT1	SWE	6	9	7	0.78
LL1	SWE		1	15	15
none	DNK	1	185	185	1
	SWE	18	17	14	0.82
OTTER	SWE	1			
POTS	SWE	43	37	37	1
TR1	SWE	1	1	1	1
TR2	SWE	8	7	14	2
Total		96	272	286	1.05

5.2.6.2 Catches (landings and discards) of cod and associated species by small boats by Member State

Table 5.2.6.2.1 Landings (t) of cod, plaice, sole and Nephrops by vessels <10m LOA, 2005-2011.

SPECIES	GEAR	2005 L	2006 L	2007 L	2008 L	2009 L	2010 L	2011 L
COD	GN1	24	31	21	8	5	7	6
COD	GT1	1	2	1	2	4	3	2
COD	LL1	2	6	7	1	0	0	0
COD	none	99	114	44	25	20	10	8
COD	PEL_TRAWL	0	0	0	0	0	0	0
COD	POTS	0	0	0	0	0	0	0
COD	TR1	0	2	2	0	0	0	0
COD	TR2	1	3	2	1	0	1	1
COD	TR3	0	0	0	0	0	0	0
COD total		127	158	77	37	29	21	17
PLE	DREDGE	0	0	0	0	0	0	0
PLE	GN1	31	42	46	26	19	14	5
PLE	GT1	7	12	13	10	25	13	14
PLE	LL1	0	0	0	0	0	0	0
PLE	none	183	207	189	119	90	68	34
PLE	PEL_TRAWL	0	0	0	0	0	0	0
PLE	POTS	0	0	0	0	0	0	0
PLE	TR1	2	1	11	0	0	0	7
PLE	TR2	2	11	16	11	14	15	10
PLE total		225	273	275	166	148	110	70
SOL	GN1	24	23	15	19	17	24	21
SOL	GT1	6	10	10	10	12	10	8
SOL	LL1	0	0	0	0	0	0	0
SOL	none	173	152	104	91	88	79	53
SOL	POTS	0	1	0	0	0	0	0
SOL	TR1	2	0	1	0	0	0	0
SOL	TR2	2	7	9	9	11	13	8
SOL	TR3	0	0	0	0	0	0	0
SOL total		207	193	139	129	128	126	90
NEP	GN1	0	0	0	0	0	0	0
NEP	GT1	0	0	0	0	0	0	0
NEP	none	8	4	5	6	9	9	26
NEP	OTTER	0	0	0	0	0	0	0
NEP	POTS	4	4	5	6	8	11	11
NEP	TR1	0	0	0	0	0	0	0
NEP	TR2	4	5	9	10	6	30	17
NEP	TR3	0	0	0	0	0	0	0
NEP total		16	13	19	22	23	50	54

Table 5.2.6.2.1 Percentage of total landings of cod, sole and plaice by vessels under 10m 2005-2011.

	2005	2006	2007	2008	2009	2010	2011
COD	13%	17%	12%	8%	15%	14%	12%
PLE	19%	18%	20%	16%	23%	23%	20%
SOL	35%	32%	32%	31%	34%	37%	28%

5.2.7 ToR 5 Evaluation of fully documented fisheries FDF

5.2.7.1 Fishing effort of FDF by Member State and fisheries in comparison with fisheries not working under FDF provisions

STECF EWG noted that only Sweden had provided data on the use of the provisions related to fully documented fisheries FDF, only for 2010. Such information is listed in Table 5.2.7.1.1.

Table 5.2.7.1.1 Fishing effort (kW days at sea) used under the provisions of the FDF.

ANNEX	REG AREA	REG GEAR	SPECON	COUNTRY	VESSEL_LE	2010	2011
FDFIIA	3a	TR2	FDFIIA	SWE	O15M	25294	

5.2.7.2 Catches (landings and discards) of cod and other species taken by FDF fisheries by Member State and fisheries in comparison with fisheries not working under FDF provisions

STECF EWG noted that only Sweden had provided data on the use of the provisions related to fully documented fisheries FDF, only for 2011. Such information is listed in Table 5.2.7.2.1.

Table 5.2.7.2.1 Landings and discards (t) and estimated discard rates for cod, Nephrops and plaice taken under the provisions of the FDF.

ANNEX	SPECIES	REG_AREA	REG_GEAR	SPECON	COUNTRY	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
FDFIIA	COD	3a	TR2	FDFIIA	SWE	1	0	0			0
FDFIIA	NEP	3a	TR2	FDFIIA	SWE	7	4	0.36			0
FDFIIA	PLE	3a	TR2	FDFIIA	SWE	2	0	0			0

5.2.8 ToR 6 Spatio-temporal patterns in effective effort by fisheries

It should be noted that Kattegat is a rather small management area to find any changes in the pattern of the distribution of effort between the gears using statistical rectangles. A smaller grid would be required in order to pick up any spatial changes in this area.

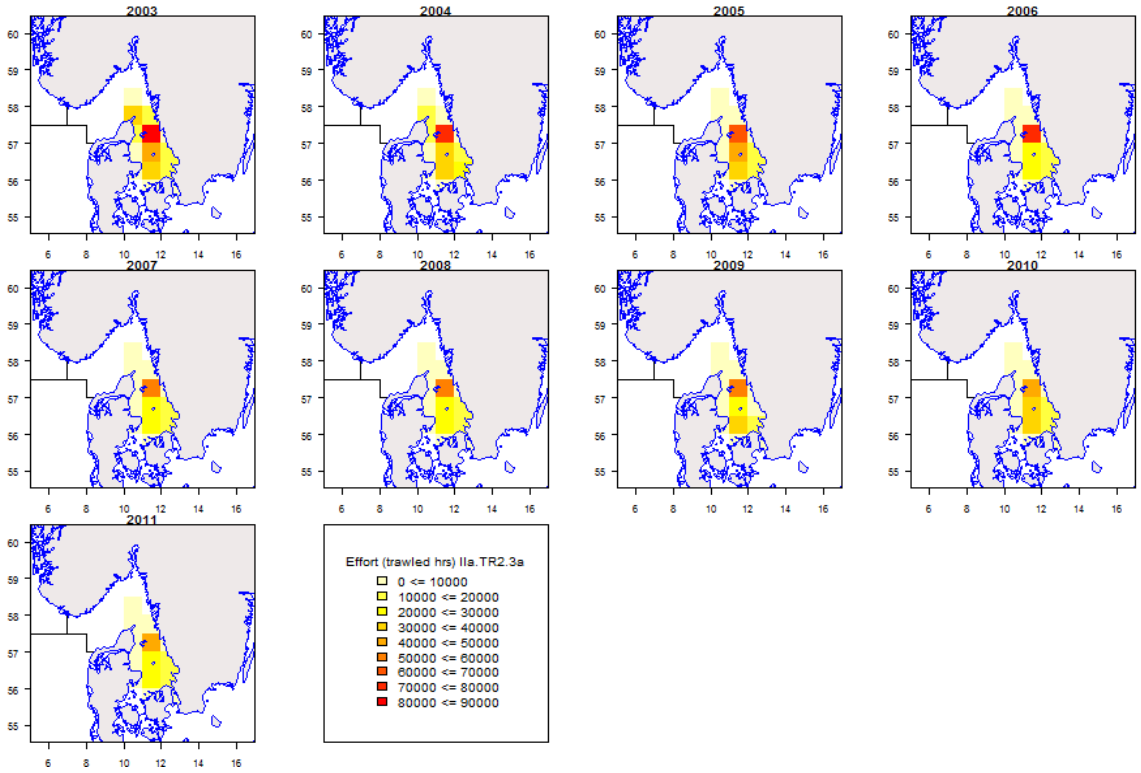


Figure 5.2.8.1 Spatial distribution of effective effort for the gear category TR2 including CPart11 and IIA83b in Kattegat 2003-2011.

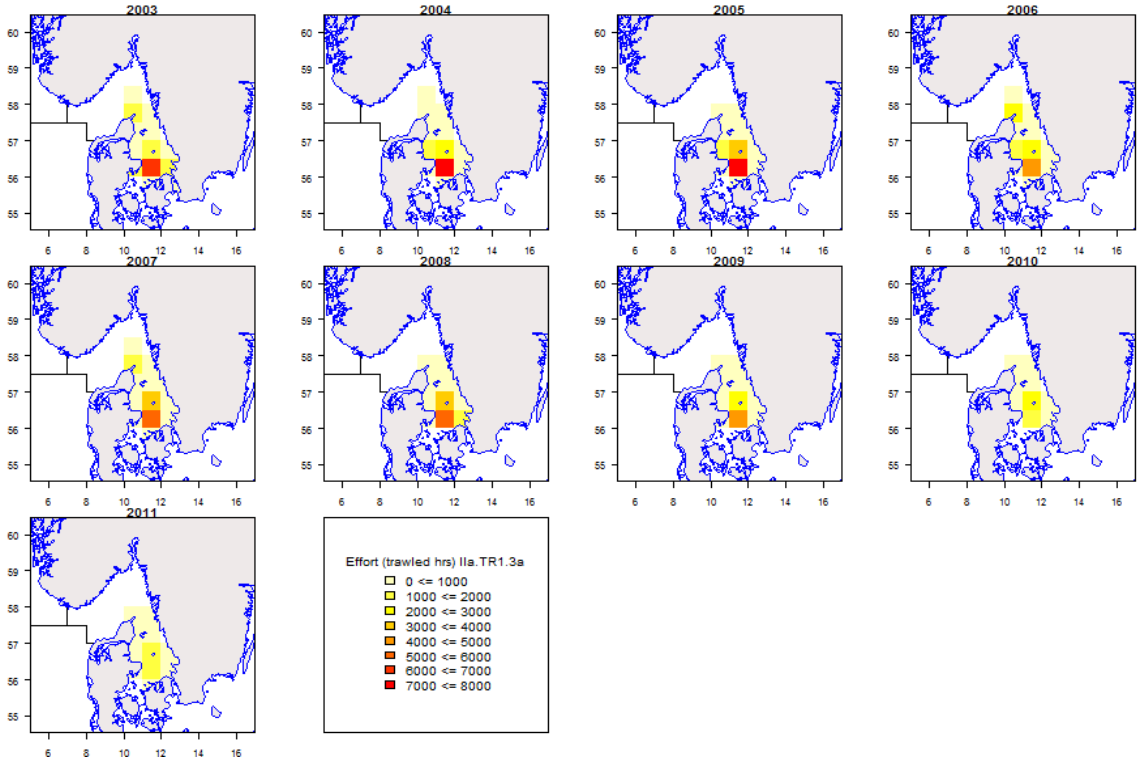


Figure 5.2.8.2 Spatial distribution of effective effort for the gear category TR1 in Kattegat 2003-2011.

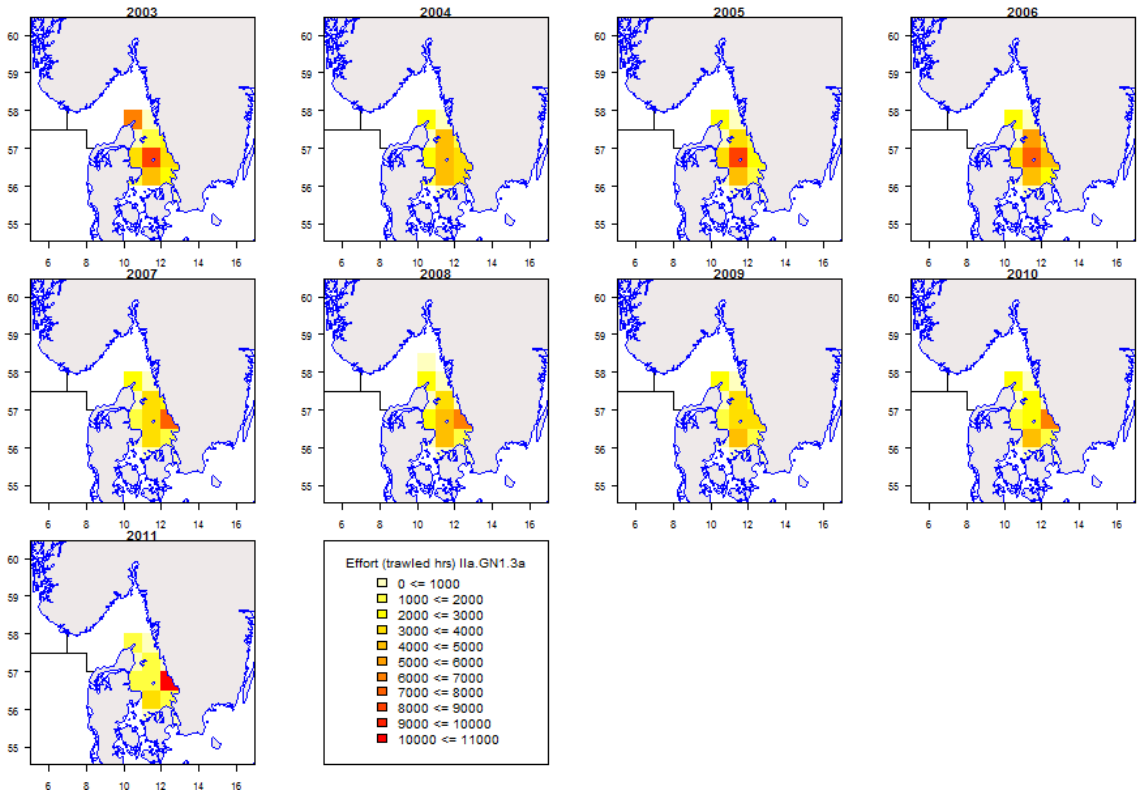


Figure 5.2.8.3 Spatial distribution of effective effort for the gear category GN1 in Kattegat 2003-2011.

5.2.9 ToR 7 Any unexpected evolutions of the trends in catches and effort by Member State and fisheries

STECF EWG 12-12 has no specific comments.

5.2.10 ToR 8 Correlation between partial cod mortality and fishing effort by Member State and fisheries

EWG 12-12 interprets this task as largely overlapping with ToR 10. The EWG 12-12 analyses and response can be found in chapter 5.2.13.

5.2.11 *ToR 9 Estimation of conversion factors to be applied for effort transfers between regulated gear groups*

STECF EWG 12-12 presents the estimated cod CPUE and respective effort transfer factors between donor and receiving regulated gear groups in Table 5.2.11.1

Table 5.2.11.1 Cod CPUE and respective effort transfer factors between donor and receiving regulated gear groups based on averages 2009-2011. Red cells are indicated to be imprecise due to lack of adequate discard information. Yellow cells indicate sufficient sampling and green cells good sampling information.

Kattegat									
	donor gear	receiving gear							
		GN1	GT1	LL1	TR1	TR2	TR3		CPUE
3a	GN1		1	1	0.529	0.822	1		74
3a	GT1	0.108		1	0.057	0.089	1		8
3a	LL1	0	0		0	0	1		0
3a	TR1	1	1	1		1	1		140
3a	TR2	1	1	1	0.643		1		90
3a	TR3	0	0	1	0	0			0

5.2.12 *ToR 10 Estimation of partial fishing mortalities of cod by area, Member State and fisheries and correlation between partial cod mortality and fishing effort by area, Member State and fisheries*

STECF EWG 12-12 interprets this task to be largely overlapping with the following ToR 11. The response can therefore be found in the following section 5.2.13.

5.2.13 *ToR 11 Comparative analyses between trends in fishing mortality and fishing effort by Member State and fisheries and the cod plan (R (EC) No 1342/2008) provisions, in particular with regard to Article 13*

The STECF EWG presents partial exploitation rates Fpar by major fisheries and Member States in relation to the estimated total exploitation rate by ICES (2012) and the catches (Tab. 5.2.13.1), landings (Tab. 5.2.13.2) and discards volumes (Tab. 5.2.13.3) in relation to the estimated total catch for the year available. The full list of all fisheries can be downloaded from the EWG's web page. The anticipated trend in fishing mortality as derived from the cod plan is also presented in the following Table 5.2.13.1. The sustainable exploitation target remains undefined. The trends in fishing effort in units of kWdays at sea of the relevant fisheries are also presented in Table 5.2.13.1. The presented parameters r (absolute value of Pearson's coefficient of correlation), numbers of points considered, as well as a p value to quantify the statistical significance (≤ 0.05) allow conclusions about the quality of the correlation between the partial F and fisheries specific fishing effort. Partial Fs are also presented in Fig. 5.2.13.1.

It can be concluded that the stock remains at a very poor state and annual harvest rates vary among 40% since 2008 without a trend. Danish gill netters and Danish and Swedish otter trawlers represent more than 90 % of the estimated harvest rates of the regulated gears. Discards contribute significantly to the overall harvest rates but appear to be reduced since 2008.

STECF EWG 12-12 notes that the correlations between the summed partial harvest rates for catch, landings and discards of the major fisheries and their estimated fishing efforts are highly significant. The partial harvest rates of the dominating Danish and Swedish TR2 fisheries also closely correlated with their specific effort estimates in kW days at sea. Only the Danish gill netters are lacking such correlation. This indicates that effective fisheries management by fishing effort in units of kWdays at sea appears possible, also as an auxiliary measure to catch constraints and technical measures.

STECF 12-12 notes that the reported catch figures reported through the DCF do increasingly underestimate the very low catch figures estimated by ICES. However, only 55 % of the 211 ICES low catch estimate of 361 t are reported through the DCF of which only about 49 % could be assigned an effort regulated gear (Tab. 5.2.13.1). Such discrepancy may be caused by the more conservative discard raising procedure applied by STECF EGWs. STECF EWG 12-12 notes that there are indications that the Danish TR2 fishery operating exclusively under Article 13.2.c since 2010 has contributed to a reduction in harvest rate in 2011, mainly through a reduction in discards.

Table 5.2.13.1 The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for catches of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010.A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

Runnig previous year annual F reductions by 25 percent as SSB remains below Blim													Reference year				
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
harvest rate as F proxy plan												0.417	0.313	0.235	0.176	0.132
reduction F plan													-0.25	-0.25	-0.25	-0.25
harvest rate as F proxy estimated							0.975	0.701	0.687	0.585	0.522	0.417	0.365	0.44	0.381	
reduction F estimated													-0.12	0.21	-0.13	
													not following the provision of Article 7			
Harvest rate partial estimated																
Annex	Area	Species	Country	Gear	Specon	catch.cate	2003	2004	2005	2006	2007	2008	2009	2010	2011	
IIa	3a	COD	DEU	GN1	none	catch	0.000	0.001	0.000	0.002	0.002	0.001	0.000	0.000	0.000	
IIa	3a	COD	DEU	TR1	none	catch	0.000	0.002	0.006	0.002	0.000	0.000	0.000	0.000	0.000	
IIa	3a	COD	DEU	TR2	CPart13.2b	catch	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3a	COD	DEU	TR2	none	catch	0.001	0.003	0.000	0.000	0.001	0.001	0.000	0.000	0.002	
IIa	3a	COD	DNK	GN1	none	catch	0.028	0.009	0.010	0.005	0.009	0.023	0.015	0.014	0.003	
IIa	3a	COD	DNK	GT1	none	catch	0.002	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	
IIa	3a	COD	DNK	LL1	none	catch	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3a	COD	DNK	TR1	none	catch	0.067	0.034	0.052	0.015	0.039	0.018	0.037	0.004	0.001	
IIa	3a	COD	DNK	TR2	CPart13.2c	catch	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.209	0.119	
IIa	3a	COD	DNK	TR2	none	catch	0.450	0.246	0.233	0.181	0.190	0.207	0.187	0.000	0.000	
IIa	3a	COD	DNK	TR3	none	catch	0.0276	0.0074	0.0058	0.0122	0.003	0.0048	0	0	0	
IIa	3a	COD	SWE	GN1	none	catch	0.0021	0.0003	0.0008	0.0014	0.0009	0.0075	0.0027	0	0	
IIa	3a	COD	SWE	GT1	none	catch	0.0049	0.0017	0.0021	0.0003	0.0009	0.002	0.0013	0	0	
IIa	3a	COD	SWE	LL1	none	catch	0.0059	0	0.0004	0.001	0	0.0095	0	0	0	
IIa	3a	COD	SWE	TR1	none	catch	0.0227	0.0176	0.0142	0.0031	0.0162	0.0068	0.0013	0.0014	0	
IIa	3a	COD	SWE	TR2	none	catch	0.367	0.3275	0.228	0.2567	0.1734	0.1093	0.0746	0.0506	0.0612	
Sum							0.9799	0.6517	0.5536	0.4808	0.4371	0.3886	0.3184	0.2789	0.1869	
check sum Fpar/F							1.005	0.9297	0.8058	0.8219	0.8374	0.9319	0.8723	0.6339	0.4906	

Effort kW days running previous year baseline																	
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012							
Effort plan/ TAC regulations						4562331	3899687	3091144	2437733	2050136							
reduction	not following the provision of Article 12.2 and 4 (base line revision						-0.15	-0.21	-0.21	-0.16							
Effort esti	6031166	4999585	4541016	4284633	4066623	3982487	3057821	2979542	2491594								
							-0.23	-0.03	-0.16								
EFFORT																2003-2011	
kW days at	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p	n				
	13612	14289	26827	38486	39725	31562	23156	19526	21484	0.843		0.004	9				
	894	2390	4985	5262	5526	1964	0	0	0	0.475		0.341	6				
	0	0	0	0	0	0	0	20020	4180	NA		NA	2				
	35966	31861	7505	10318	35338	38716	19918	10710	9490	0.364		0.335	9				
	184730	111650	130267	104450	72977	66270	83095	66976	46211	0.497		0.173	9				
	15923	14791	28221	24922	12119	11758	23209	14225	11408	0.014		0.972	9				
	3240	3080	0	220	0	0	406	0	221	0.945		0.015	5				
	201816	191679	205850	193619	186575	158868	104096	69037	48671	0.704		0.034	9				
	0	0	0	0	0	0	0	2385563	1998979	NA		NA	2				
	3455075	3059057	2547492	2254222	2026307	2148493	2214066	0	0	0.882		0.009	7				
	654355	481725	485616	358274	306240	152411	95897	36383	25572	0.818		0.007	9				
	20309	17690	9609	14748	14949	32697	33120	32270	27481	0.417		0.265	9				
	25558	11254	12833	19178	34170	29266	17518	26612	25205	-0.076		0.845	9				
	5683	1376	10684	27478	37856	25234	0	0	0	0.005		0.992	6				
	44370	15121	24870	5160	19799	57592	6985	13626	1006	0.498		0.173	9				
	1369635	1043622	1046257	1228296	1275042	1227656	436355	284594	271686	0.752		0.02	9				
	6031166	4999585	4541016	4284633	4066623	3982487	3057821	2979542	2491594	0.974		0.000	9				

Table 5.2.13.2 The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for landings of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010.A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

| Runnig prvious year annual F reductions by 25 percent as SSB remains below Blim | | | | | | | | | | | | Reference year | | | | | | | | | | | |

Table 5.2.13.3 The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 assessment, as well as partial Fs for discards of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010.A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

Runnig prvious year annual F reductions by 25 percent as SSB remains below Blim												Reference year				
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
harvest rate as F proxy plan												0.417	0.313	0.235	0.176	0.132
reduction F plan													-0.25	-0.25	-0.25	-0.25
harvest rate as F proxy estimated							0.975	0.701	0.687	0.585	0.522	0.417	0.365	0.44	0.381	
reduction F estimated													-0.12	0.21	-0.13	
													not following the provision of Article 7			
Harvest rate partial estimated																
Anne	Area	Species	Countr	Gear	Specon	catch.cate	2003	2004	2005	2006	2007	2008	2009	2010	2011	
IIa	3a	COD	DEU	GN1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3a	COD	DEU	TR1	none	discards	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3a	COD	DEU	TR2	CPart13.2b	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3a	COD	DEU	TR2	none	discards	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
IIa	3a	COD	DNK	GN1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3a	COD	DNK	GT1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3a	COD	DNK	LL1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3a	COD	DNK	TR1	none	discards	0.016	0.015	0.018	0.003	0.017	0.001	0.016	0.000	0.000	
IIa	3a	COD	DNK	TR2	CPart13.2c	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.097	0.037	
IIa	3a	COD	DNK	TR2	none	discards	0.1364	0.087	0.0881	0.0641	0.0824	0.0829	0.0719	0	0	
IIa	3a	COD	DNK	TR3	none	discards	0	0	0	0	0	0	0	0	0	
IIa	3a	COD	SWE	GN1	none	discards	0	0	0	0	0	0	0	0	0	
IIa	3a	COD	SWE	GT1	none	discards	0	0	0	0	0	0	0	0	0	
IIa	3a	COD	SWE	LL1	none	discards	0	0	0	0	0	0	0	0	0	
IIa	3a	COD	SWE	TR1	none	discards	0.0038	0.0077	0.0038	0.0003	0.003	0.002	0	0	0	
IIa	3a	COD	SWE	TR2	CPart11	discards	0	0	0	0	0	0	0.0173	0.0137	0.0032	
IIa	3a	COD	SWE	TR2	none	discards	0.128	0.2143	0.1094	0.1611	0.0889	0.0306	0.028	0.0137	0.0222	
Sum							0.2842	0.3255	0.2213	0.2282	0.1918	0.1162	0.1332	0.1244	0.0634	
check sum Fpar/F							0.2915	0.4643	0.3221	0.3901	0.3674	0.2787	0.3649	0.2827	0.1664	

Effort kW days running previous year baseline													
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012			
Effort plan/ TAC regulations						4562331	3899687	3091144	2437733	2E+06			
reduction	not following the provision of Article 12.2 and 4 (base line rev						-0.15	-0.21	-0.21	-0.16			
Effort estimatec	6017554	4985296	4514189	4246147	4026898	3950925	3449859	3442448	2896748				
							-0.13	0.00	-0.16				
EFFORT												2003-2011	
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n	
	13612	14289	26827	38486	39725	31562	23156	19526	21484	NA	NA	9	
	894	2390	4985	5262	5526	1964	0	0	0	0.365	0.477	6	
	0	0	0	0	0	0	0	20020	4180	NA	NA	2	
	35966	31861	7505	10318	35338	38716	19918	10710	9490	0.211	0.585	9	
	184730	111650	130267	104450	72977	66270	83095	66976	46211	NA	NA	9	
	15923	14791	28221	24922	12119	11758	23209	14225	11408	NA	NA	9	
	3240	3080	0	220	0	0	406	0	221	NA	NA	5	
	201816	191679	205850	193619	186575	158868	104096	69037	48671	0.584	0.099	9	
	0	0	0	0	0	0	0	2385563	1998979	NA	NA	2	
	3455075	3059057	2547492	2254222	2026307	2148493	2214066	0	0	0.816	0.025	7	
	654355	481725	485616	358274	306240	152411	95897	36383	25572	NA	NA	9	
	20309	17690	9609	14748	14949	32697	33120	32270	27481	NA	NA	9	
	25558	11254	12833	19178	34170	29266	17518	26612	25205	NA	NA	9	
	5683	1376	10684	27478	37856	25234	0	0	0	NA	NA	6	
	44370	15121	24870	5160	19799	57592	6985	13626	1006	0.322	0.398	9	
	0	0	0	0	0	0	415194	482432	426638	NA	NA	3	
	1369635	1043622	1046257	1228296	1275042	1227656	436355	284594	271686	0.632	0.068	9	
	6017554	4985296	4514189	4246147	4026898	3950925	3449859	3442448	2896748	0.884	0.002	9	

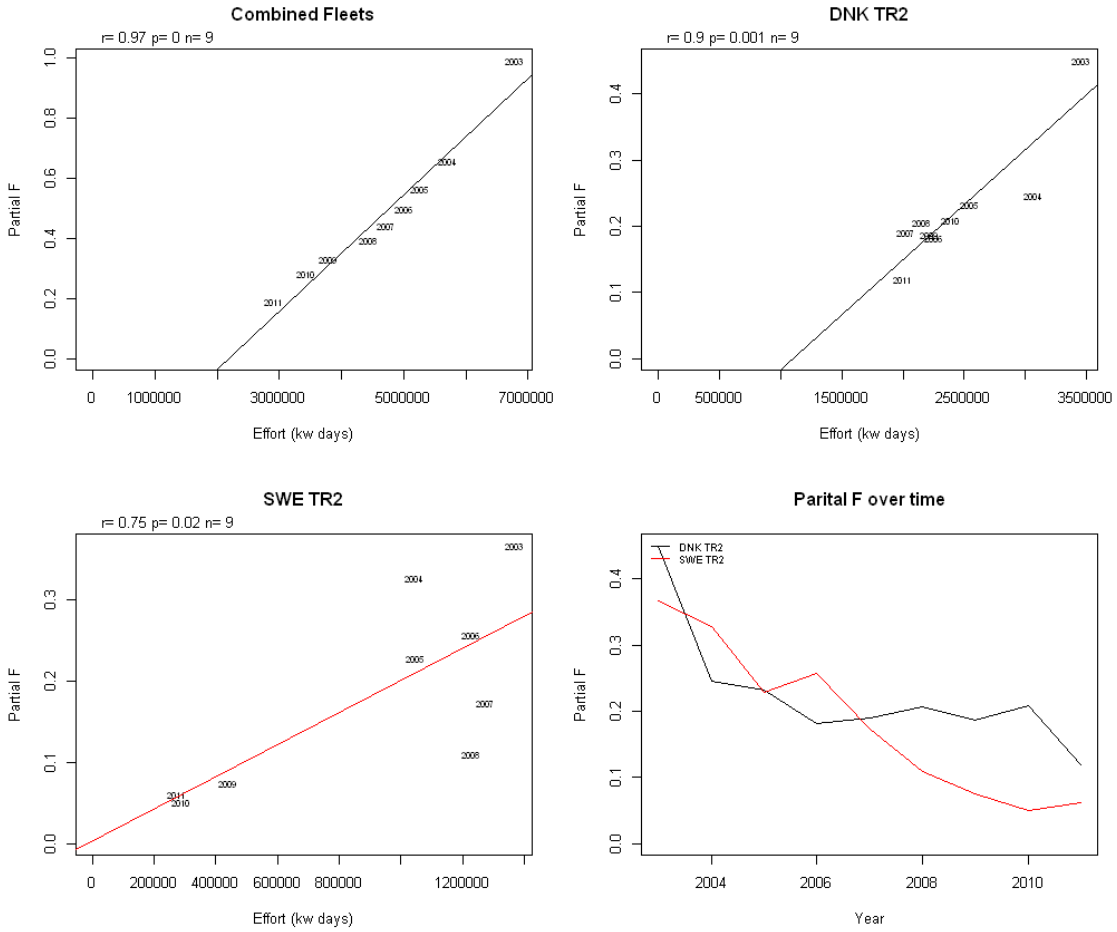


Figure 5.2.13.1. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) in Kattegat. Top left; all fleets combined, top right; the Danish TR2 fishery, bottom left; the Swedish TR2 fishery, bottom right; partial fishing mortality (harvest rate) over time for the Swedish and Danish TR2 fishery 2003-2011. R = Pearson's coefficient of correlation, p value from two tailed to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated fisheries and that the trends of the fisheries are not separated by special conditions.

5.2.14 ToR 12 Considerations in order to accomplish spatio-temoral patterns in standardized catchability indices for cod

The STECF EWG 12-12 discussed this task and elaborated a method given in section 4.9 of the present report.

STECF EWG 12-12 notes that the Kattegat is a small management area and the resolution by ICES rectangle is too coarse to pick up any spatio-temperal patterns in the fishery. In addition, a large part of the southeast Kattegat is closed to fishery and the area does not coincide with ICES rectangles. Therefore the STECF EWG 12-12 does not find this task meaningful for the Kattegat.

5.3 Skagerrak, North Sea and Eastern Channel effort regime evaluation in the context of Annex IIA to Council Regulation (EC) No 57/2011)

5.3.1 ToR 1.a Fishing effort in kWdays, GTdays and number of vessels by Member State and fisheries

Catch and effort data including special conditions in force since 2009 (CPart11 and CPart13) have been provided by all Member States with significant fishing activity in this area. As such, the data are considered to represent a complete account of fishing effort by regulated gears in the area as reported by national administrations. As a result, any inconsistencies or problems in the data arise from the reported data rather than the subsequent compilation by the working group. In the current dataset and as last year, there is a particular issue with the data for 2002 when the reported effort by French vessels is substantially higher than in other years. This appears anomalous but does not affect perception of more recent trends in effort; times series are accordingly displayed from 2003 on only. In many cases the French data for 2009 are identical or very close to the corresponding figures for 2008, hence the 2009 figures should still be regarded as preliminary; they have not been revised this year.

In addition, the group noted that some discrepancies were observed between the effort reported to STECF and the effort reported to ICES for the North Sea, the Skagerrak and the Eastern English Channel (ICES, 2012), but the extent and source of these discrepancies could not be investigated further.

Information on nominal effort (KWDays) by regulated and unregulated gears in the Skagerrak, North Sea (incl. 2EU) and the Eastern Channel are listed by country in Table 5.3.1.1 for the current cod plan categories. Additional information including GTdays and numbers of vessels or the extended time series can be found on the STECF website.

Information related to the Fully Documented Fishery (FDF) is dealt with specifically in section 5.3.8 further below.

Trends in nominal aggregated effort in kilowatt-days by overall gear category according to Annex IIa of Council Regulations 43/2009, 53/2010 and 57/2011 are given in Tables 5.3.1.2 and shown in Figure 5.3.1.1. Data are presented as aggregate totals for the whole of area 3b, and do not thus distinguish between the various sub-areas. A more detailed analysis of unregulated gears is presented in section 5.3.5.

Overall, regulated gears to total effort in area 3b represented 69% in 2011. The main gears in management area 3b are demersal trawls/seines and beam trawls (51% and 42% of total 2011 regulated effort respectively). Nominal effort by both of these gear types has decreased since 2003, and this is reflected in the decrease in total effort over the same period. After having remained constant over 2008-2010, beam trawling effort decreased by 13% in 2011.

Within regulated demersal trawls/seines, nominal effort is shared between smaller mesh size (70-99mm, TR2) and larger mesh sizes (>=100mm, TR1) (55% and 44% respectively). Beam trawling is dominated at 96% by smaller mesh size (80-119 mm, BT2)

Figures 5.3.1.2–5.3.1.3 show effort totals by mesh size category within the regulated gear types.

The overall effort by demersal trawls / seines has shown a reduction since 2003. However, while small mesh size trawling (TR2) have shown a continuous decline of effort over the years (-35% in 2011 compared to the average 2004-2006), the effort by larger mesh (TR1) remained relatively stable over the previous cod plan (2004-2009) and declined only after the full implementation of the new

cod plan in 2010. Overall TR1 and TR2 effort decreased by 6% and 8% respectively between 2010 and 2011 (Table 5.3.1.2).

It is sometimes difficult to interpret these aggregated trends, because the current grouping covers many different fisheries. TR2 in particular gathers as different fisheries as e.g. *Nephrops* trawling, mainly in the Northern North Sea, and whiting trawling in the south-western North Sea, and these local fisheries may follow different dynamics. Similarly, TR1 fisheries cover both a mixed whitefish fishery and a saithe-targeted fishery.

Since 2009, all Scottish and English effort by TR gears has been allocated to Special Condition CPart13, and a large part Swedish effort by TR2 gears allocated to CPart11. In addition, a small amount of Scottish effort granted under CPart11 was observed in area 3b. For German vessels, 51% of TR1 and 7% of TR2 effort was allocated to CPart13 in 2011.

The share of static gears effort has been stable over the period, around 6-7% of the total regulated effort deployed in the Skagerrak, North Sea (incl. 2EU) and Eastern Channel. STECF EWG 12-12 notes that the fishing activities for static gears may be poorly quantified by nominal effort (kW*days at sea). With that caveat, usage of gillnets and trammel nets has fluctuated without real trends and the overall level of effort in longlines is still very low.

Table 5.3.1.1 Area 3b: Trend in nominal effort (kW *days at sea) by Gear group, country and specon, 2004-2011 (the extended time series is available on the STECF website).

REG GEAR	COUNTRY	SPECON	2004	2005	2006	2007	2008	2009	2010	2011	Rel 04-06	Rel 2010
BT1	**BEL**	none	1439951	1509759	1333012	1320169	987634	575501	486680	644908	0.45	1.33
	DEU	none	31698	2128	53986	30297	17674		884	1535	0.05	1.74
	DNK	none	1366044	1316858	788891	856617	449199	413427	569744	433062	0.37	0.76
	FRA	none										
	NLD	none	814723	856823	1598963	828513	392987	439835	488309	308958	0.28	0.63
	SCO	none	694716	730810	603091	349914	68568	53082				
	ENG	none	671129	618160	1321240	305837	228530	265710	202684	169873	0.20	0.84
	NIR	none	543305	36825								
BT2	**BEL**	none	6717425	5952619	6201205	5891626	6228335	5531728	4368821	3470955	0.55	0.79
	DEU	none	2080593	2212397	1927398	1590823	1464163	1666322	1801775	1240530	0.60	0.69
	DNK	none	87890	100871	92798	104694	39730	78215	3678	440		0.12
	FRA	none	1372579	994258	1324297	1238613	1194714	1194714	610829	609703	0.50	1.00
	NLD	none	45326214	45000599	39370689	38450313	27720830	28729727	28648855	25777844	0.60	0.90
	SCO	none	4610314	4185264	3109683	2800641	1354776	560729	144306			
	ENG	none	4230884	4470070	3333673	3576089	2343694	2891909	3528678	2942307	0.73	0.83
	NIR	none	47517	16785								
	GBJ	none	14375	10346								
GN1	**BEL**	none	171233	167853	151507	129532	168969	181261	196692	95383	0.58	0.48
	DEU	none	163665	273203	236585	152633	281182	235144	276024	225797	1.01	0.82
	DNK	none	2503663	2355996	2086597	1234706	1328785	1475494	1567471	1443100	0.62	0.92
	FRA	none	406304	289076	332356	448038	198741	197488	100810	52988	0.15	0.53
	NLD	none	416025	387945	512022	521697	507733	419797	357091	316070	0.72	0.89
	SCO	none	197407	165644	293823	320785	417076	376332	440579	607650	2.78	1.38
	SWE	none	127286	89748	76409	58618	96877	101209	67326	70682	0.72	1.05
	ENG	none	362508	308493	311045	182202	75938	188216	211651	252170	0.77	1.19
GT1	**BEL**	none				42078	34200	12430	41780	46185		1.11
	DEU	none			1547			15444	1188	924	0.60	0.78
	DNK	none	246854	240716	184802	98425	126223	197308	178830	223000	0.99	1.25
	FRA	none	3426003	4121419	5467522	5292713	3621742	3617988	2431158	2529724	0.58	1.04
	NLD	none					740	26917	37399	21431		0.57
	SWE	none	16206	27824	56771	62309	63022	36250	21260	23899	0.71	1.12
	ENG	none	10306	14525	17181	10999	22498	18440	25367	20026	1.43	0.79
LL1	**BEL**	none					1768		3047	128		0.04
	DNK	none	85345	44687	45289	18078	27772	30722	48293	62587	1.07	1.30
	FRA	none	163370	97311	114742	162573	216282	216282	166766	94156	0.75	0.56
	SCO	none	4350		7542	1487	276674	620890	301689	156352	26.30	0.52
	SWE	none	44221	42904	123481	165019	53381	11352	6600	8580	0.12	1.30
	ENG	none	115019	182590	95139	53675	45863	42923	57724	44458	0.34	0.77
	NIR	none										

(ctd next page)

Table 5.3.1.1 (ctd)

REG GEAR	COUNTRY	SPECON	2004	2005	2006	2007	2008	2009	2010	2011	Rel 04-06	Rel 2010
TR1	**BEL**	none	1989			161520	201379	220428	220777	129741	65.23	0.59
	DEU	CPART13						927872	918707	846030		0.92
		none	1719696	2166578	2436727	2041064	1774792	891953	912558	805546	0.38	0.88
	DNK	none	7154017	7853341	7402801	5385763	5347921	5120432	4972090	4582610	0.61	0.92
	FRA	none	2348974	1961936	2724981	2642190	2787798	2696190	2004742	1841280	0.79	0.92
	IRL	none										
	NLD	none	593232	547564	532260	648039	1411644	1323312	1415882	1176692	2.11	0.83
	SCO	CPART13						12245575	10444829	9986666		0.96
		none	12684328	12158294	11661338	11022980	12176291					
	SWE	none	470803	496754	292520	357841	426261	255594	207882	216991	0.52	1.04
	ENG	CPART13						2145727	2110555	2142321		1.02
		none	1498089	1256186	1824680	1501767	1851664					
	NIR	CPART13						56140	29360	33246		1.13
		none	16948	70711	51951	61460	49104					
	GBJ	none										
TR2	**BEL**	none	546386	354543	390268	312570	441190	553209	638857	600864	1.40	0.94
	DEU	CPART13						2420	39820	31020		0.78
		none	905330	704404	771597	680681	457259	471414	424525	410357	0.52	0.97
	DNK	none	8088391	5913518	4689098	3433945	3310190	3394115	3199997	3317731	0.53	1.04
	FRA	none	14841436	13427913	15043571	14787652	12000527	11759062	8070194	7727033	0.54	0.96
	IRL	none	884									
	NLD	none	1813096	1643732	1512140	1819497	2482280	1937751	1936340	1921901	1.16	0.99
	SCO	CPART11							97359	38429		0.39
		CPART13						8344074	8205442	6768863		0.82
		none	9486074	9108230	8677821	8887263	9195955					
	SWE	CPART11						766754	699160	695814		1.00
		IIA83B	308459	542007	664971	894575	735039					
		none	1646761	1430032	1451764	1160743	1365913	781107	661331	514449	0.34	0.78
	ENG	CPART13						1910232	1720025	1620355		0.94
		none	1976703	2187597	1892451	1769650	1959629					
	NIR	CPART13						385631	398496	273858		0.69
		none	12440	221904	532885	758972	409182					
	GBJ	CPART13						7480				
		none	20201	24143	10560	13420	9680					
	IOM	none										
	GBG	none										
TR3	**BEL**	none					663		3536			
	DEU	none			772	884	4410	426				
	DNK	none	3226366	2586161	1822500	846368	939474	607063	1077111	334898	0.13	0.31
	FRA	none	81511	106826	115612	138596	67827	66507	148174	125135	1.24	0.84
	IRL	none								2247		
	NLD	none	45942	43261	20649	20589	4038	274	31973	23268	0.64	0.73
	SCO	none	5460	2356	116	11896		33117	27524			
	SWE	none	3330	1564	588	919			1986			
	ENG	none	7840	3315	6360	1472	492	82	718	621	0.11	0.86
Grand Total			**148013808**	**141637376**	**135704267**	**125662029**	**109466902**	**107326727**	**98013938**	**88063371**	0.62	0.90

Table 5.3.1.2 Area 3b: Trend in nominal effort (Kw *days at sea) by Gear group. 2004-2011 (the extended time series is available on the STECF website). NB TR2 CPArt11 and SPECON IIA83b is accounted for in the *un*regulated gears

REG GEAR	SPECON	2004	2005	2006	2007	2008	2009	2010	2011	Rel 04-06	Rel 2010
BT1	none	5561566	5071363	5699183	3691347	2144592	1747555	1748301	1558336	0.29	0.89
BT2	none	64487791	62943209	55359743	53652799	40346242	40653344	39106942	34041779	0.56	0.87
GN1	none	4348091	4037958	4000344	3048211	3075301	3174941	3217644	3063840	0.74	0.95
GT1	none	3699369	4404484	5727823	5506524	3868425	3924777	2736982	2865189	0.62	1.05
LL1	none	412305	367492	386193	400832	621740	922169	584119	366261	0.94	0.63
TR1	CPART13						15375314	13503451	13008263		0.96
	none	26488076	26511364	26927258	23822624	26026854	10507909	9733931	8752860	0.33	0.90
TR2	CPART13						10649837	10363783	8694096		0.84
	none	39337702	35016016	34972155	33624393	31631805	18896658	14931244	14492335		0.97
TR3	none	3370449	2743483	1966597	1020724	1016904	707469	1291022	486169	0.18	
Total Regulated		147705349	141095369	135039296	124767454	108731863	106559973	97217419	87329128	0.62	0.90
Unregulated incl CPArt11		64310989	57396791	50758827	47752457	42510687	46417089	44683604	40296855	0.70	0.90
Grand Total		212016338	198492160	185798123	172519911	151242550	152977062	141901023	127625983	0.64	0.90
% regulated		70%	71%	73%	72%	72%	70%	69%	68%		

As a quality check, STECF routinely compares the data currently submitted with the data submitted during the previous year, as is displayed in table 5.3.1.3. Compared to the data submitted in 2011, updates were reported by Denmark, England and Ireland. Danish and English updates relate to ambiguous interpretation of the data call for the reporting of FDF fisheries, that were previously subtracted from the total effort reported within the same strata. This ambiguity was clarified in 2012, leading to correction of data submitted in 2011.

Table. 5.3.1.3 Area 3b: Relative change in nominal effort 2012 data submission compared to 2011 submission (kW *days at sea) by country, gear, derogation and vessel length 2000-2010.

COUNTRY	ANNEX	REG AREA	REG GEAR	SPECON	VESSEL_LENGTH	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
DNK	IIa	3b	none	none	O15M	0	0	0	0	0	0	0	0	0	0	0.055
DNK	IIa	3b	PEL_TRAWL	none	O15M	0	0	0	0	0	0	0	0	0	0	0.001
DNK	IIa	3b	TR1	none	O15M	0	0	0	0	0	0	0	0	0	0	0.295
DNK	IIa	3b	TR2	none	O15M	0	0	0	0	0	0	0	0	0	0	0.004
ENG	IIa	3b	DREDGE	none	O10T15M	0	0	0	0	0	0	0	0	0	0	0.038
ENG	IIa	3b	GN1	none	O15M	0	0	0	0	0	0	0	0	0	0	0.155
ENG	IIa	3b	POTS	none	O10T15M	0	0	0	0	0	0	0	0	0	0	0.001
ENG	IIa	3b	TR1	CPART13	O10T15M										0	0.289
ENG	IIa	3b	TR1	CPART13	O15M										0	0.25
IRL	IIa	3b	PEL_TRAWL	none	O15M	0	0	0	0.059	0.29	0.1	0.109	0.101	0.116	0.173	0.358
IRL	IIa	3b	POTS	none	O15M						0.019	0	0	0.083	0.197	0.038

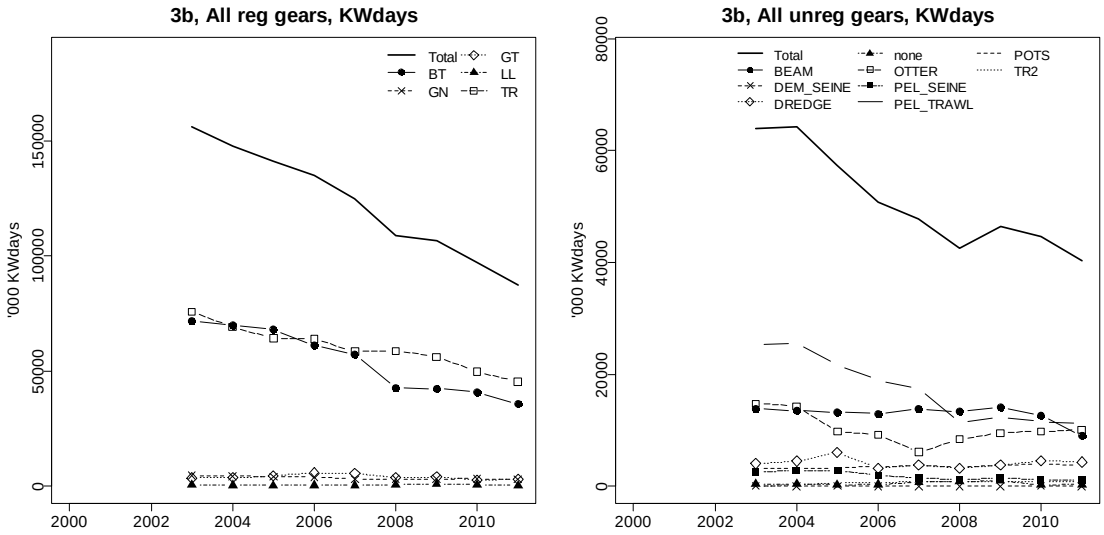


Figure 5.3.1.1. Effort trends for regulated (left) and unregulated (right) gear types. TR = demersal otter trawl and demersal seine, BT = Beam trawl, GN = Gillnet, GT = Trammel net, LL = Longline.

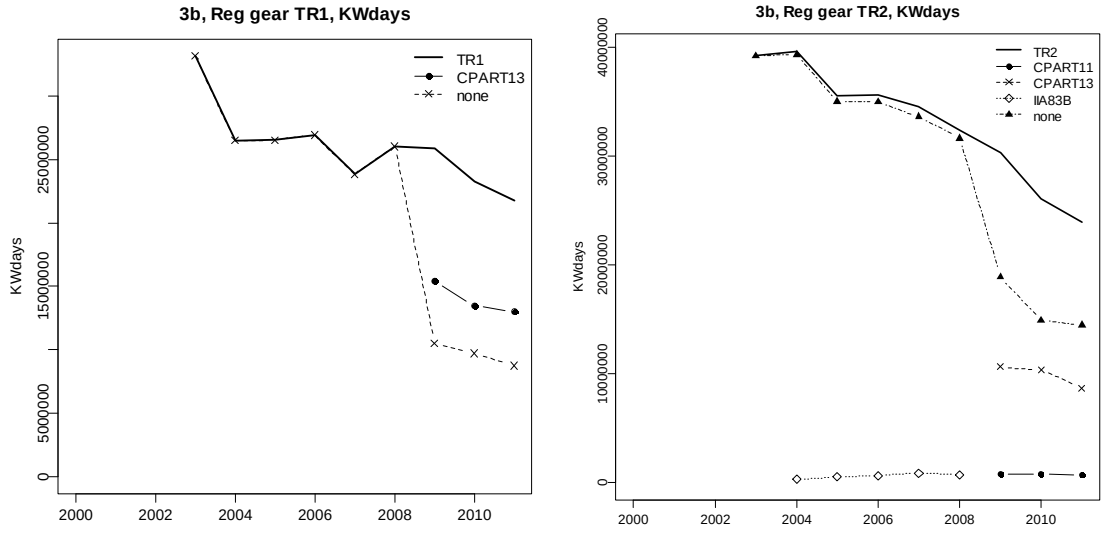


Figure 5.3.1.2. Effort trends for TR1 and TR2 disaggregated by special condition.

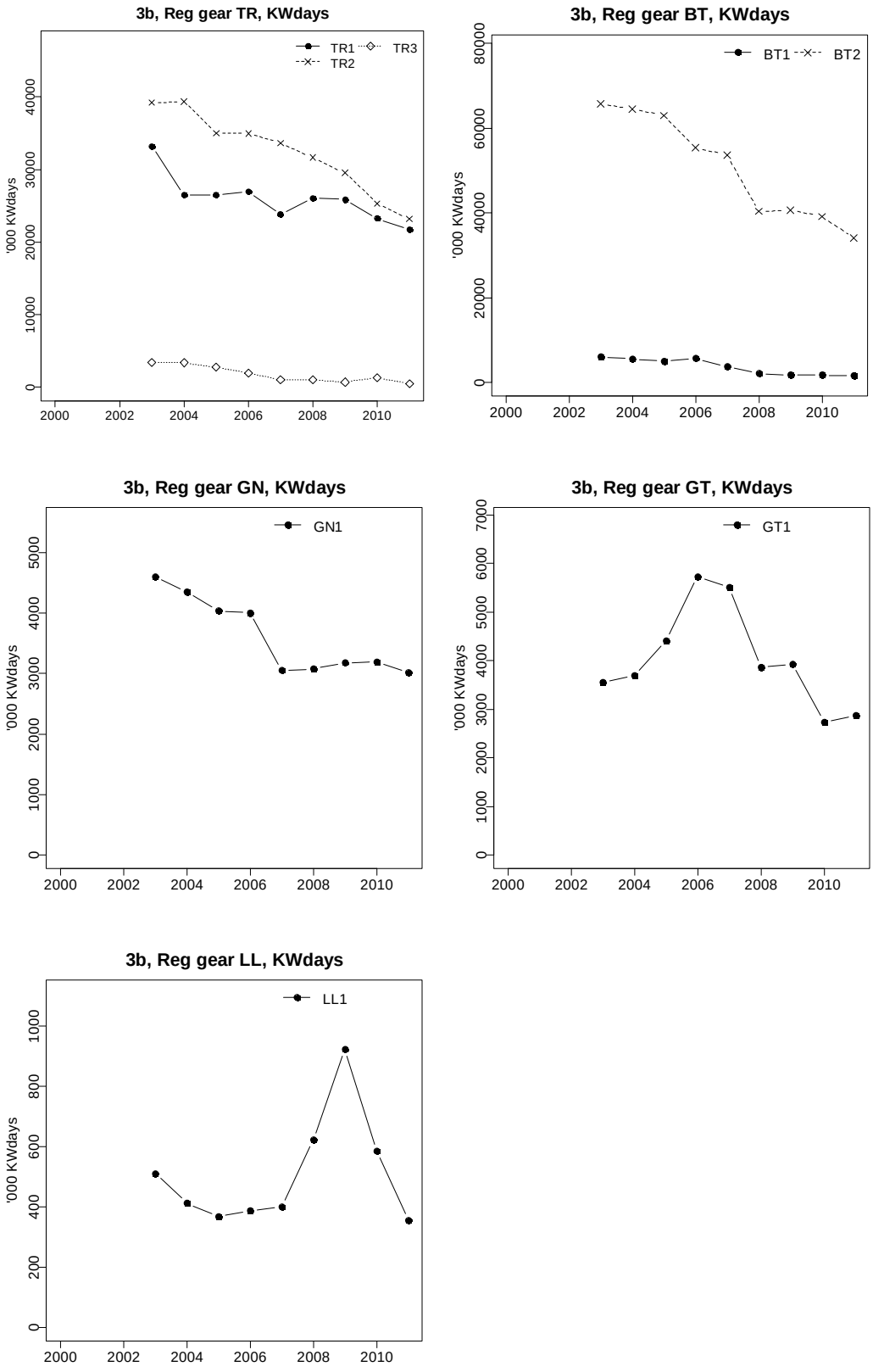


Figure 5.3.1.3. Effort separated by each individual regulated gear type.

5.3.1.1 Fishing effort of unregulated gears, management area 3b

Effort trends by unregulated gears (including CPArt11 and SPECON IIA83b) are given in Table 5.3.1.1.1 and shown in Figure 5.3.1.1.1. Category 'none' represents unregulated gear types and mesh sizes in addition to unidentified mesh sizes, and this category less than 1% of the unregulated effort in 2011.

This section provides a breakdown of the main gears within this category in effort (kW*Days at sea). Most of the unregulated effort is performed using pelagic, otter and beam trawls in similar proportions (28%, 26% and 23% of total unregulated effort in 2011 respectively), and also with dredges and pots (around 10% each). The unregulated effort has remained around comparable levels since 2008.

Table 5.3.1.1.1. Effort (kWdays) of unregulated gear in area 3b 2004-2011. The full time series is available on the STECF website.

REG GEAR COD	SPECON	2004	2005	2006	2007	2008	2009	2010	2011	Rel 04-06	Rel 2010
BEAM	none	13521284	13230382	12938958	13782031	13336844	14047370	12674009	9003515	0.68	0.71
DEM_SEINE	none	9718	23138	2585	13017	5214	14305	43871	2175	0.18	0.05
DREDGE	none	4459314	5986424	3218067	3803033	3139961	3776311	4555360	4305027	0.95	0.95
none	none	385857	251012	308412	720239	773769	926110	203172	303705	0.96	1.49
OTTER	none	14271608	9751513	9155423	6077251	8409456	9496032	9754159	10088642	0.91	1.03
PEL_SEINE	none	2721915	2720802	1998040	1417010	1153077	1432037	1134323	1028205	0.41	0.91
PEL_TRAWL	none	25504989	21648998	18949191	17435181	11441037	12315789	11522732	11113899	0.50	0.96
POTS	none	3127845	3242515	3523180	3610120	3516290	3642381	3999459	3717444	1.13	0.93
TR2	CPART11						766754	796519	734243		0.92
	IIA83B	308459	542007	664971	894575	735039					
Grand Total		64310989	57396791	50758827	47752457	42510687	46417089	44683604	40296855	0.70	0.90

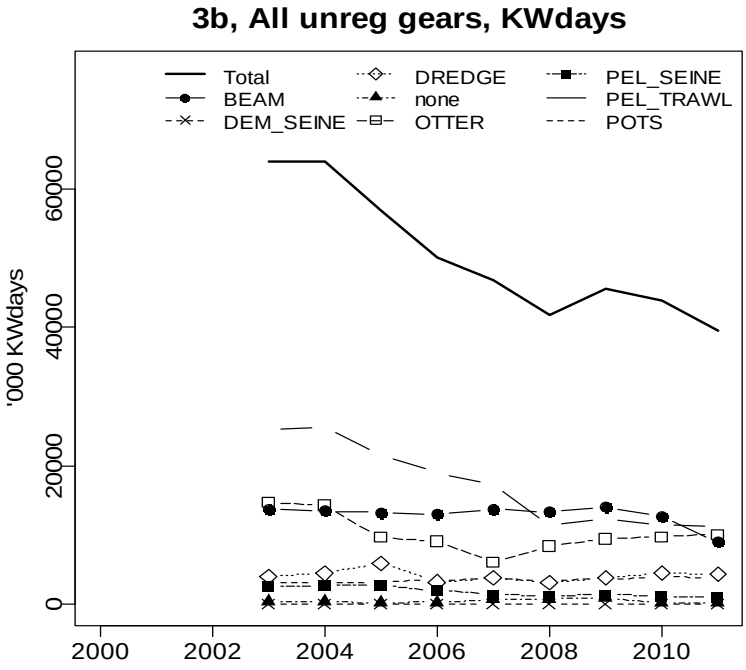


Figure 5.3.1.1.1 Effort trends for unregulated gear types.

5.3.1.2 Uptake of effort baseline

In 2012, the uptake of effort baselines was calculated for the first time (Figure 5.3.1.2.1).

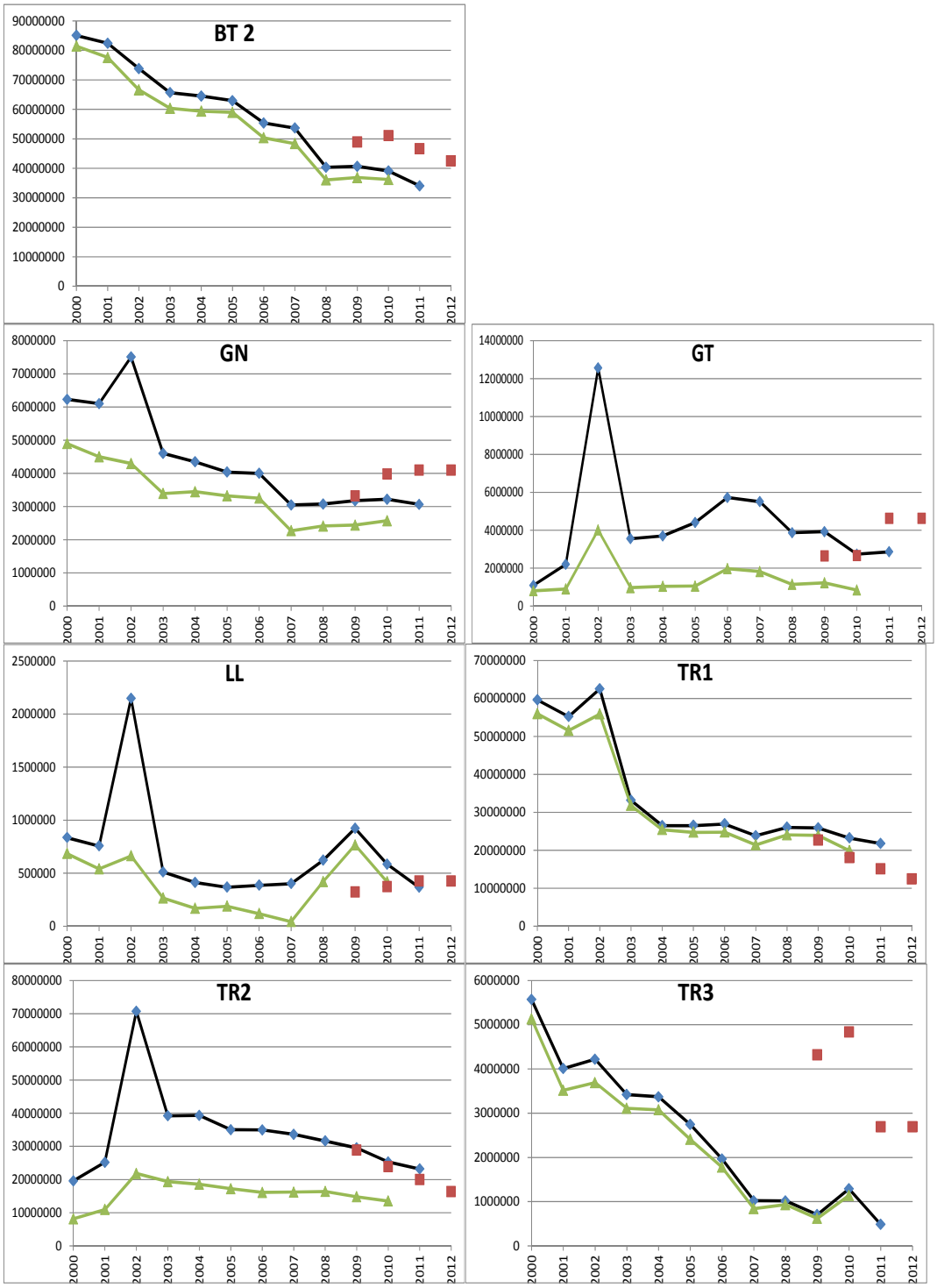


Figure 5.3.1.2.1 Management area 3b. Uptake of effort ceilings. Red squares: effort ceiling. Blue diamonds: regulated effort in whole area 3b (CPart 11 excluded). Green triangles : regulated effort in North Sea (ICES division IV) alone.

5.3.2 ToR 1.b Catches (landings and discards) of cod in weight and numbers at age by fisheries

Estimated landings and discards of cod by cod plan gear category for the whole area are given in Table 5.3.2.1. The same is displayed for unregulated gears (Table 5.3.2.2). Detailed data on age compositions of landings are not given here, but are available on the web site. The same applies to estimates by country.

Information related to the Fully Documented Fishery (FDF) is dealt with specifically in section 5.3.8 further below.

As for the report of 2010, a number of figures are included in this report, displaying total landings (white) and discards (grey – when available) in weight for all regulated gears from 2004 to 2011 (Figures 5.3.2.1)

Because of the limited availability and reliability of discard information for some species and from some countries contributing substantially to landings, care is required in the use of these data to draw firm conclusions about catch composition. In addition, the procedure used to raise discards as explained in section 4.4 may not be fully consistent with the procedures used in other contexts and therefore may not be directly comparable.

In TR1, cod landings have been increasing since 2008, but discards rates have decreased substantially between 2008 and 2011.

Catches from unregulated gears do not play a major role despite some high discard estimates for unregulated otter trawls in some years.

Numbers of age by fisheries is not dealt with in this section, and can be found at the website (http://stecf.jrc.ec.europa.eu/web/stecf/ewg12) in Appendix 3

Table 5.3.2.1 Skagerrak, North Sea (incl. 2EU), and Eastern Channel: Landings (t), discards (t) and relative discard rates in weight for cod by regulated gear, 2005-2011.

SPECIES	REG_GEAR	SPECON	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
COD	BT1	none	1122	0	0	1001	335	0.25	688	0	0	337	212	0.39	230	0	0	323	0	0	411	0	0
COD	BT2	none	2197	749	0.25	2258	433	0.16	2085	218	0.09	2620	940	0.26	2332	422	0.15	1849	278	0.13	1357	101	0.07
COD	GN1	none	3741	10	0	3228	0	0	2421	0	0	2519	0	0	2872	0	0	3301	142	0.04	2799	0	0
COD	GT1	none	343	0	0	344	0	0	346	0	0	373	0	0	470	0	0	409	1	0	344	1	0
COD	LL1	none	133	0	0	228	0	0	183	0	0	207	0	0	127	0	0	287	0	0	181	0	0
COD	TR1	CPart13			0			0			0			0	9971	6054	0.38	12626	3097	0.2	11300	1445	0.11
COD	TR1	none	12147	2026	0.14	11868	2924	0.2	10956	6887	0.39	12944	17517	0.58	7847	1927	0.2	7716	1848	0.19	6500	503	0.07
COD	TR2	CPart13			0			0			0			0	538	1312	0.71	609	1243	0.67	364	1221	0.77
COD	TR2	none	3440	3293	0.49	3071	4756	0.61	3110	8171	0.72	2922	4581	0.61	2789	3516	0.56	2532	3237	0.56	2630	1407	0.35
COD	TR3	none	31	0	0	30	0	0	4	0	0	57	0	0	2	0	0	18	0	0	4	0	0
Total			**23154**	**6078**	**0.21**	**22028**	**8448**	**0.28**	**19793**	**15276**	**0.44**	**21979**	**23250**	**0.51**	**27178**	**13231**	**0.33**	**29670**	**9846**	**0.25**	**25890**	**4678**	**0.15**

Table 5.3.2.2 Skagerrak, North Sea (incl. 2EU), and Eastern Channel: Landings (t), discards (t) and relative discard rates in weight for cod by unregulated gear, 2005-2011.

SPECIES	REG_GEAR	SPECON	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
COD	BEAM	none	20	0	0	14	0	0	24	0	0	32	0	0	113	0	0	51	0	0	14	0	0
COD	DEM_SEINE	none	2	1	0.33	3	0	0	1	0	0			0	2	0	0	10	0	0	1	0	0
COD	DREDGE	none	0	0	0	1	0	0	4	0	0	1	0	0	0	0	0	3	0	0	2	0	0
COD	none	none	12	0	0	23	0	0	10	0	0	44	0	0	63	0	0	27	0	0	40	0	0
COD	OTTER	none	300	2706	0.9	220	33	0.13	127	197	0.61	155	3819	0.96	204	3	0.01	262	20	0.07	237	64	0.21
COD	PEL_SEINE	none	8	4	0.33	1	0	0			0	0	0	0	0	0	0	2	1	0.33			0
COD	PEL_TRAWL	none	11	0	0	11	0	0	6	0	0	7	0	0	41	0	0	29	0	0	23	0	0
COD	POTS	none	17	0	0	15	0	0	11	0	0	7	0	0	7	0	0	17	0	0	10	0	0
COD	TR2	CPart11			0			0			0			0	0	4	1	3	80	0.96	0	1	1
COD	TR2	IIA83b	1	2	0.67	1	4	0.8	1	14	0.93	0	6	1			0			0			0
Total			**371**	**2713**	**0.88**	**289**	**37**	**0.11**	**184**	**211**	**0.53**	**246**	**3825**	**0.94**	**430**	**7**	**0.02**	**404**	**101**	**0.20**	**327**	**65**	**0.17**

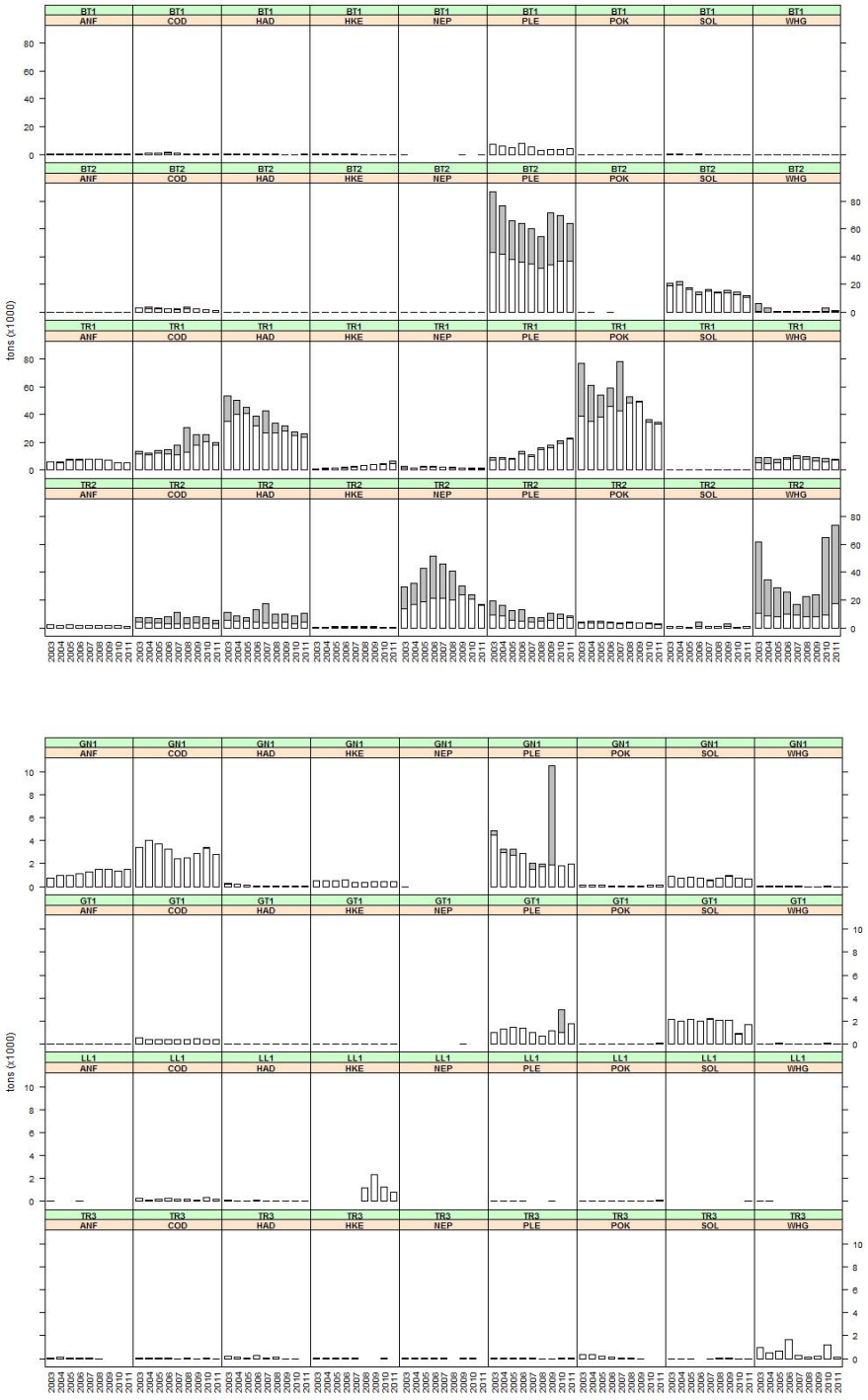


Figure 5.3.2.1; Estimated landings (white bars) and discards (grey bars) of targets species by cod plan gear category in management area 3b (North Sea, Skagerrak, Eastern Channel, 2EU). The upper chart shows the most used gears, the lower chart the remaining gears

5.3.3 ToR 1.c Catches (landings and discards) of non-cod species in weight and numbers at age by fisheries

Estimated landings and discards of haddock, whiting, anglerfish, saithe, hake, Nephrops, plaice and sole by cod plan gear category for the whole area are given in Table 5.3.3.1. The same is given for the unregulated gears in table 5.3.3.2 but for sole and plaice only. Detailed data on age compositions of landings and discards are not given here, but are available on the web site. The same applies to other species.

Information related to the Fully Documented Fishery (FDF) is dealt with specifically in section 5.3.8 further below.

As for the report of 2010, a number of figures are included in this report, displaying total landings (white) and discards (grey – when available) in weight for all regulated gears from 2004 to 2011 (Figures 5.3.3.1). Because of the limited availability and reliability of discard information for some species and from some countries contributing substantially to landings, care is required in the use of these data to draw firm conclusions about catch composition. In addition, the procedure used to raise discards and explained in section 4.4 may not be fully consistent with the procedures used in other contexts and therefore may not be directly comparable. In particular, the very large whiting discards estimated for 2011 relates to averaged discards rates allocated to the large French landings in area VIId rather than actual observations, which are missing in this area.

Haddock and saithe landings have slightly decreased. Also discard rates for saithe are much lower compared to former years. Plaice landings have increased and so discards remain around the same proportion of the total catch (~40-45%). Whitefish landings in TR2 are globally low compared to TR1 landings and Nephrops landings have decreased in recent years.

Catches with unregulated gears of sole and plaice are very small compared with the total catch (Table 5.3.3.2).

Numbers of age by fisheries is not dealt with in this section, and can be found at the website (http://stecf.jrc.ec.europa.eu/web/stecf/ewg12) in Appendix 3.

Table 5.3.3.1 Skagerrak, North Sea (incl. 2EU), and Eastern Channel: Landings (t), discards (t) and relative discard rates in weight by species and regulated gear, 2005-2011. DATA FOR OTHER SPECIES ARE AVAILABLE ON STECF WEBSITE.

SPECIES	REG_GEAR	SPECON	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
ANF	BT1	NONE	359	0	0	201	14	0.07	208	0	0	162	1	0.01	110	0	0	91	0	0	113	0	0
ANF	BT2	NONE	81	14	0.15	69	7	0.09	88	9	0.09	92	7	0.07	90	31	0.26	183	30	0.14	156	22	0.12
ANF	GN1	NONE	938	0	0	1093	0	0	1289	0	0	1463	0	0	1465	0	0	1354	0	0	1529	0	0
ANF	GT1	none	3	0	0	3	0	0	1	0	0	1	0	0	6	0	0	5	0	0	6	0	0
ANF	LL1	none	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
ANF	TR1	CPart13			0			0			0			0	5738	0	0	4030	0	0	4295	0	0
ANF	TR1	NONE	7111	722	0.09	6952	494	0.07	7445	443	0.06	7677	346	0.04	1345	12	0.01	1355	15	0.01	1058	2	0
ANF	TR2	CPart13			0			0			0			0	1227	0	0	1224	0	0	949	0	0
ANF	TR2	NONE	1944	8	0	1861	27	0.01	1730	31	0.02	1857	25	0.01	397	1	0	260	1	0	257	1	0
ANF	TR3	none	27	0	0	11	0	0	11	0	0	2	0	0	0	0	0	0	0	0			0
ANF Total			**10463**	**744**	**0.07**	**10191**	**542**	**0.05**	**10772**	**483**	**0.04**	**11254**	**379**	**0.03**	**10378**	**44**	**0.00**	**8502**	**46**	**0.01**	**8364**	**25**	**0.00**
HAD	BT1	NONE	127	0	0	81	2	0.02	117	0	0	54	0	0	34	0	0	33	0	0	52	1	0.02
HAD	BT2	NONE	58	15	0.21	15	3	0.17	16	2	0.11	20	9	0.31	11	0	0	19	0	0	58	13	0.18
HAD	GN1	NONE	97	0	0	78	0	0	58	0	0	47	0	0	36	0	0	66	0	0	57	0	0
HAD	GT1	none	2	0	0	1	0	0	1	0	0	1	0	0	2	0	0	2	0	0	3	0	0
HAD	LL1	none	24	0	0	65	0	0	12	0	0	12	0	0	14	0	0	43	0	0	37	0	0
HAD	TR1	CPart13			0			0			0			0	25116	3612	0.13	22270	2856	0.11	21009	2532	0.11
HAD	TR1	NONE	40887	4272	0.09	31544	7404	0.19	26491	16331	0.38	26558	6851	0.21	2610	325	0.11	2294	150	0.06	2639	167	0.06
HAD	TR2	CPart13			0			0			0			0	3274	5537	0.63	2621	5128	0.66	2144	5147	0.71
HAD	TR2	NONE	4825	2750	0.36	3961	8872	0.69	3253	13932	0.81	3414	6583	0.66	711	468	0.4	521	588	0.53	2175	720	0.25
HAD	TR3	none	53	1	0.02	280	0	0	5	0	0	109	0	0	1	0	0	2	0	0			0
HAD total			**46073**	**7038**	**0.13**	**36025**	**16281**	**0.31**	**29953**	**30265**	**0.50**	**30215**	**13443**	**0.31**	**31809**	**9942**	**0.24**	**27871**	**8722**	**0.24**	**28174**	**8580**	**0.23**

Table 5.3.3.1 continued

SPECIES	REG_GEAR	SPECON	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
HKE	BT1	NONE	70	0	0	60	0	0	60	0	0	40	0	0	24	0	0	37	0	0	32	0	0
HKE	BT2	NONE	20	2	0.09	10	5	0.33	9	0	0	11	0	0	7	0	0	11	0	0	9	0	0
HKE	GN1	NONE	531	0	0	596	0	0	336	0	0	376	0	0	419	0	0	447	0	0	458	0	0
HKE	GT1	none	2	0	0	1	0	0	1	0	0	17	0	0	6	0	0	18	0	0	4	0	0
HKE	LL1	none	0	0	0	0	0	0			0	1182	0	0	2311	0	0	1224	0	0	767	0	0
HKE	TR1	CPart13			0			0			0			0	2059	90	0.04	1919	460	0.19	2390	139	0.05
HKE	TR1	NONE	1163	468	0.29	1456	412	0.22	2068	405	0.16	3162	439	0.12	1755	199	0.1	1934	320	0.14	2079	1768	0.46
HKE	TR2	CPart13			0			0			0			0	108	0	0	103	66	0.39	91	0	0
HKE	TR2	NONE	317	386	0.55	291	548	0.65	345	619	0.64	575	410	0.42	430	330	0.43	315	139	0.31	343	42	0.11
HKE	TR3	none	33	0	0	12	0	0	8	0	0			0	0	0	0	26	0	0	0	0	0
HKE total			**2136**	**856**	**0.29**	**2426**	**965**	**0.28**	**2827**	**1024**	**0.27**	**5363**	**849**	**0.14**	**7119**	**619**	**0.08**	**6034**	**985**	**0.14**	**6173**	**1949**	**0.24**
NEP	BT1	NONE	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0			0	1	0	0
NEP	BT2	NONE	76	8	0.1	59	0	0	93	0	0	31	0	0	86	0	0	82	0	0	96	0	0
NEP	GN1	NONE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEP	GT1	none	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
NEP	LL1	none			0			0			0			0			0	0	0	0			0
NEP	TR1	CPART13			0			0			0			0	950	0	0	597	0	0	712	0	0
NEP	TR1	NONE	2091	580	0.22	2027	443	0.18	1844	443	0.19	1608	369	0.19	535	196	0.27	433	201	0.32	385	104	0.21
NEP	TR2	CPart13			0			0			0			0	19654	0	0	17093	0	0	12210	0	0
NEP	TR2	NONE	19012	23497	0.55	20978	30662	0.59	21508	24720	0.53	20287	20301	0.5	4096	6644	0.62	3365	3231	0.49	4088	678	0.14
NEP	TR3	none	5	0	0	20	0	0	11	0	0			0	10	0	0	35	0	0			0
NEP total			**21184**	**24085**	**0.53**	**23084**	**31105**	**0.57**	**23456**	**25163**	**0.52**	**21926**	**20670**	**0.49**	**25333**	**6840**	**0.21**	**21605**	**3432**	**0.14**	**17492**	**782**	**0.04**

Table 5.3.3.1 continued

SPECIES	REG_GEAR	SPECON	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
PLE	BT1	NONE	5113	0	0	7712	115	0.01	5241	0	0	3012	63	0.02	3566	0	0	3661	0	0	4102	0	0
PLE	BT2	NONE	37769	28309	0.43	35840	28073	0.44	34827	25142	0.42	31635	23053	0.42	33858	37410	0.52	36708	32770	0.47	36925	27255	0.42
PLE	GN1	NONE	2735	528	0.16	2915	0	0	1523	548	0.26	1731	253	0.13	1882	8617	0.82	1790	0	0	1934	1	0
PLE	GT1	NONE	1462	0	0	1340	0	0	987	0	0	663	9	0.01	1170	0	0	1002	1954	0.66	1748	13	0.01
PLE	LL1	NONE	1	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0
PLE	TR1	CPart13			0			0			0			0	5042	1101	0.18	5086	860	0.14	5937	531	0.08
PLE	TR1	NONE	7904	632	0.07	11390	2115	0.16	9675	1340	0.12	14626	1295	0.08	10878	865	0.07	14034	1121	0.07	16104	430	0.03
PLE	TR2	CPart13			0			0			0			0	1133	2617	0.7	1544	1236	0.44	1671	533	0.24
PLE	TR2	NONE	5691	6780	0.54	4939	8380	0.63	4377	2783	0.39	4652	2854	0.38	4431	2292	0.34	5100	2127	0.29	5796	337	0.05
PLE	TR3	NONE	19	0	0	26	0	0	6	0	0	1	0	0	1	0	0	12	0	0	10	0	0
PLE total			**60694**	**36249**	**0.37**	**64164**	**38683**	**0.38**	**56636**	**29813**	**0.34**	**56320**	**27527**	**0.33**	**61962**	**52902**	**0.46**	**68938**	**40068**	**0.37**	**74228**	**29100**	**0.28**
POK	BT1	NONE	9	0	0	11	0	0	10	0	0	4	2	0.33	1	0	0	1	0	0	2	0	0
POK	BT2	NONE	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
POK	GN1	none	86	0	0	72	0	0	49	0	0	44	0	0	72	0	0	128	0	0	86	0	0
POK	GT1	none	3	0	0	4	0	0	2	0	0	2	0	0	10	0	0	23	0	0	75	0	0
POK	LL1	none	4	0	0	19	0	0	3	0	0	3	0	0	7	0	0	5	0	0	74	0	0
POK	TR1	CPart13			0			0			0			0	21976	38	0	20116	1492	0.07	16869	1497	0.08
POK	TR1	NONE	38080	15862	0.29	45528	13392	0.23	42356	35457	0.46	48409	4583	0.09	26903	396	0.01	14462	220	0.01	16114	106	0.01
POK	TR2	CPart13			0			0			0			0	363	0	0	217	127	0.37	232	866	0.79
POK	TR2	NONE	3464	1238	0.26	3625	767	0.17	2645	650	0.2	3518	677	0.16	2991	237	0.07	2766	274	0.09	1739	99	0.05
POK	TR3	none	170	0	0	132	0	0	47	0	0	17	0	0	1	0	0	0	0	0	0	0	0
POK total			**41817**	**17100**	**0.29**	**49392**	**14159**	**0.22**	**45113**	**36107**	**0.44**	**51997**	**5262**	**0.09**	**52324**	**671**	**0.01**	**37718**	**2113**	**0.05**	**35191**	**2568**	**0.07**

Table 5.3.3.1 continued

SPECIES	REG_GEAR	SPECON	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
SOL	BT1	NONE	43	0	0	52	0	0	30	0	0	24	0	0	26	0	0	15	0	0	15	0	0
SOL	BT2	NONE	16225	1344	0.08	12920	1419	0.1	15366	862	0.05	13984	605	0.04	14036	1625	0.1	12540	1659	0.12	10492	1364	0.12
SOL	GN1	NONE	789	0	0	708	0	0	536	36	0.06	712	16	0.02	906	62	0.06	753	0	0	637	0	0
SOL	GT1	NONE	2169	0	0	2011	0	0	2162	77	0.03	2055	7	0	2068	19	0.01	865	29	0.03	1693	16	0.01
SOL	LL1	NONE	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	1	0	0
SOL	TR1	CPart13			0			0			0			0	10	0	0	6	0	0	6	0	0
SOL	TR1	NONE	19	0	0	30	20	0.4	29	0	0	35	0	0	23	0	0	21	0	0	16	0	0
SOL	TR2	CPart13			0			0			0			0	108	8	0.07	56	0	0	74	0	0
SOL	TR2	NONE	568	4	0.01	727	3619	0.83	775	216	0.22	801	43	0.05	740	2048	0.73	567	0	0	625	0	0
SOL	TR3	NONE	2	0	0	1	0	0	1	0	0	6	0	0	6	0	0	3	0	0	4	0	0
SOL total			**19815**	**1348**	**0.06**	**16449**	**5058**	**0.24**	**18899**	**1191**	**0.06**	**17617**	**671**	**0.04**	**17923**	**3762**	**0.17**	**14826**	**1688**	**0.10**	**13563**	**1380**	**0.09**
WHG	BT1	NONE	3	0	0	6	1	0.14	3	0	0	1	0	0	1	0	0	1	0	0	0	2	1
WHG	BT2	NONE	222	317	0.59	214	195	0.48	134	535	0.8	152	727	0.83	509	341	0.4	485	2781	0.85	473	941	0.67
WHG	GN1	NONE	8	0	0	10	0	0	15	0	0	3	0	0	5	0	0	9	0	0	4	0	0
WHG	GT1	NONE	34	0	0	21	2	0.09	13	7	0.35	10	19	0.66	12	0	0	16	45	0.74	20	1	0.05
WHG	LL1	NONE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHG	TR1	CPart13			0			0			0			0	6542	1913	0.23	5726	2041	0.26	6513	709	0.1
WHG	TR1	NONE	5387	2167	0.29	7510	1604	0.18	8269	1928	0.19	7762	2129	0.22	188	140	0.43	257	226	0.47	289	71	0.2
WHG	TR2	CPart13			0			0			0			0	2005	1168	0.37	1931	3624	0.65	2239	3435	0.61
WHG	TR2	NONE	8256	20445	0.71	9869	15523	0.61	9376	7685	0.45	8245	14082	0.63	6090	14229	0.7	7553	51964	0.87	15323	52542	0.77
WHG	TR3	NONE	637	0	0	1632	0	0	311	0	0	129	0	0	196	0	0	1187	0	0	124	0	0
WHG total			**14547**	**22929**	**0.61**	**19262**	**17325**	**0.47**	**18121**	**10155**	**0.36**	**16302**	**16957**	**0.51**	**15548**	**17791**	**0.53**	**17165**	**60681**	**0.78**	**24985**	**57701**	**0.70**

Table 5.3.3.2 Skagerrak, North Sea (incl. 2EU), and Eastern Channel: Landings (t), discards (t) and relative discard rates in weight by species and unregulated gear, 2005-2011. DATA FOR OTHER SPECIES ARE AVAILABLE ON STECF WEBSITE.

SPECIES	REG_GEAR	SPECON	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
PLE	BEAM	NONE	74	0	0	45	0	0	41	0	0	12	0	0	26	0	0	118	0	0	60	0	0
PLE	DEM_SEINE	none	0	0	0	6	0	0			0			0	3	0	0	12	0	0	0	0	0
PLE	DREDGE	NONE	33	0	0	7	0	0	3	0	0	7	0	0	8	0	0	23	0	0	12	0	0
PLE	none	NONE	23	0	0	23	0	0	63	0	0	17	0	0	22	0	0	8	0	0	19	0	0
PLE	OTTER	NONE	120	45	0.27	41	0	0	27	483	0.95	15	0	0	13	5	0.28	252	0	0	22	29	0.57
PLE	PEL_SEINE	none	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0			0
PLE	PEL_TRAWL	none	14	0	0	14	0	0	2	0	0	13	0	0	14	0	0	9	0	0	14	0	0
PLE	POTS	none	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	8	0	0	5	0	0
PLE	TR2	CPart11			0			0			0			0	2	32	0.94	1	58	0.98	1	48	0.98
PLE	TR2	IIA83b	8	19	0.7	6	12	0.67	3	69	0.96	2	73	0.97			0			0			0
PLE total			**273**	**64**	**0.19**	**143**	**12**	**0.08**	**140**	**552**	**0.80**	**66**	**73**	**0.53**	**88**	**37**	**0.30**	**431**	**58**	**0.12**	**133**	**77**	**0.37**
SOL	BEAM	NONE	40	0	0	18	0	0	27	0	0	17	0	0	24	0	0	30	0	0	17	0	0
SOL	DEM_SEINE	none			0			0			0			0			0			0			0
SOL	DREDGE	NONE	43	0	0	5	0	0	4	0	0	4	0	0	7	0	0	24	0	0	9	0	0
SOL	none	NONE	1	0	0	2	0	0	2	0	0	11	0	0	11	0	0	0	0	0	0	0	0
SOL	OTTER	NONE	115	0	0	48	0	0	20	0	0	20	0	0	20	0	0	14	0	0	10	0	0
SOL	PEL_TRAWL	none	15	0	0	14	0	0	5	0	0	17	0	0	17	0	0	12	0	0	15	0	0
SOL	POTS	none	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	5	0	0	3	0	0
SOL	TR2	CPart11			0			0			0			0	1	0	0	0	0	0	1	3	0.75
SOL	TR2	IIA83b	1	0	0	1	0	0	2	2	0.5	1	2	0.67			0			0			0
SOL total			**215**	**0**	**0.00**	**88**	**0**	**0.00**	**62**	**2**	**0.03**	**70**	**2**	**0.03**	**80**	**0**	**0.00**	**85**	**0**	**0.00**	**55**	**3**	**0.05**

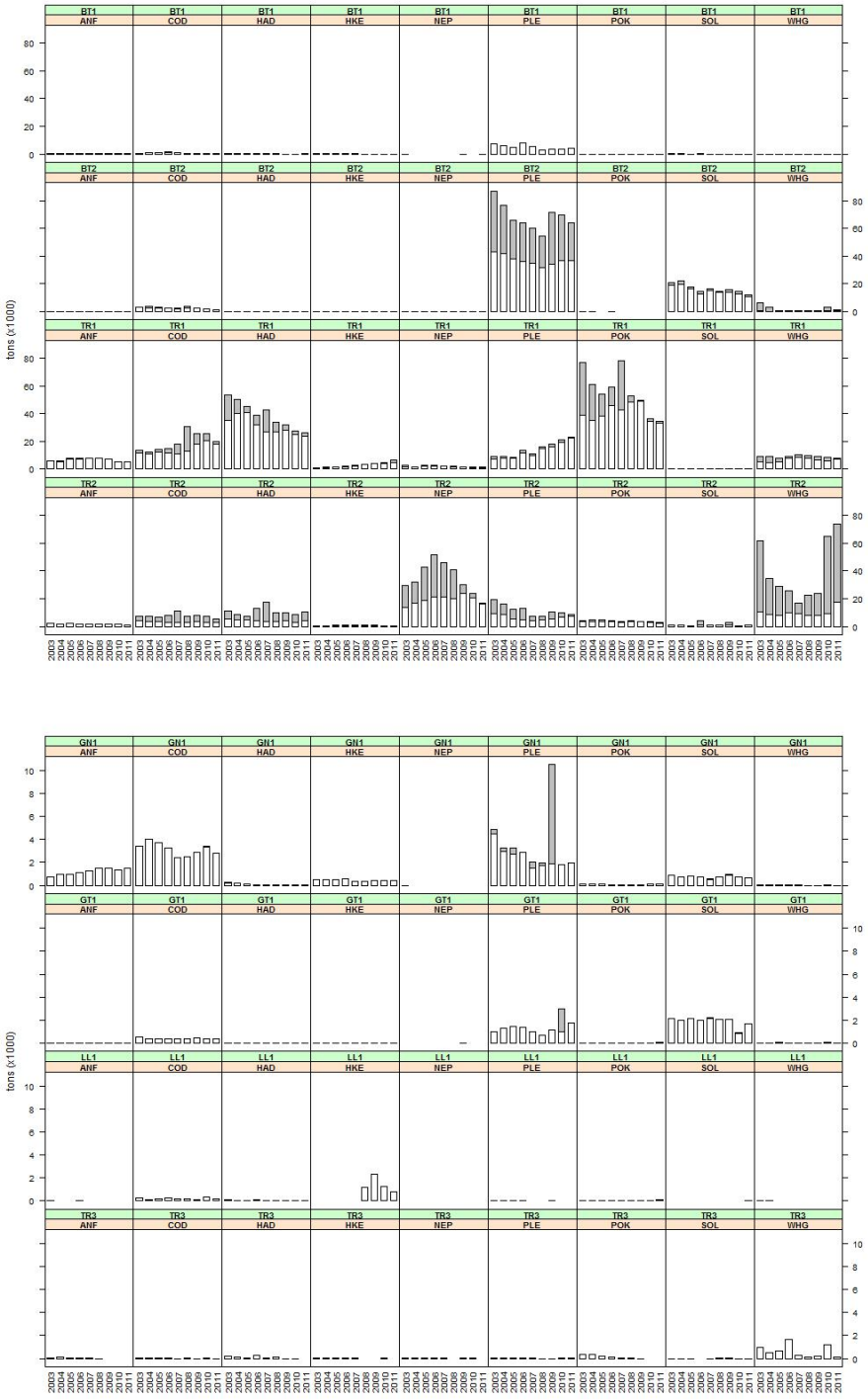


Figure 5.3.3.1; Estimated landings (white bars) and discards (grey bars) of targets species by cod plan gear categories in management area 3b (North Sea, Skagerrak, Eastern Channel, 2EU). The upper chart shows the most used gears, the lower chart the remaining gears.

5.3.4 ToR 1.d CPUE and LPUE of cod, plaice, and sole by fisheries and by Member States

Catch rates for cod, plaice and sole in g/KW-day for the regulated cod categories are given in tables 5.3.4.1 – 5.3.4.3. In some cases the data refer to landings only, depending on whether discard data were available. In the context of possible effort management measures, it is useful to summarise the impact of each gear category in terms of the relative quantity removed per unit of effort. Using this approach, the CPUE for a given gear, when compared with the CPUE of another gear for the same period, can be used as a proxy for the relative fishing power of the gear. Therefore, the gear categories as ranked with regards to highest 2011 CPUE for cod, plaice and sole are indicated in the tables. In addition, CPUE and LPUE by year are plotted (Figure 5.3.4.1) by species for the first four gear categories (when ranked by 2007-2011 average).

For cod (Table 5.3.4.1), CPUE for most gears has decreased in 2011 when compared to 2010, following a general increasing trend over recent years. Lower discard estimates in 2011 for the main gear (TR1), lower total landings and an estimated increasing stock size in 2011 from the most recent assessment (ICES, 2012) suggests this decrease in CPUE may be due to increased cod avoidance. CPUE for gillnets (GN1) has been very similar to that of the large mesh otter trawl and seines (TR1) in the past two years, and also mirrors the TR1 decline in CPUE and LPUE in 2011. CPUE for TR1 CPart13 remains the highest of the fleet categories, including higher than the TR1 none category. As noted previously in this report, whilst this appears counter-intuitive it may reflect the fact that the major cod catching fleets (primarily Scotland) are operating in more northerly waters where cod is more abundant, where the TR1 none fleets are operating in more southerly waters where cod is depleted.

Catch rates for LL1 and BT2 have increased slightly, although total landings by both gears are relatively low and have decreased on 2010 (Table 5.3.2.1). Catch rates for TR2 CPart13 have remained stable over recent years, despite a decrease in TR2 none catch rate being observed; this is contrary to expected as increasing cod abundance would suggest an increased catch rates for both categories. The exempt TR2 CPart11 catch rate for 2011 again returned to a very low level, which reflects the fact that the Scottish TR2 fleet associated CPart11 catches are again absent in 2011.

With regards to flatfish, it should be noted that plaice and sole in the Skagerrak (which is categorised as part of management area 3b) are considered as part of the same stocks as plaice and sole in the Kattegat (management area 3a). Both stocks are considered as being distinct from the North Sea stocks, as are plaice and sole in the Eastern Channel (another part of 3b). As a result, the CPUE data for plaice and sole in area 3b cover three different stocks of each species, and so need to be interpreted with care. Notwithstanding this, large increases in catch rates have been observed in 2011 for the main gears (BT1, BT2, TR1, TR2; Table 5.3.4.2) which reflects a general increasing trend over the time series which is also supported by a rapidly increasing stock biomass from the assessment (ICES, 2012). Perhaps surprisingly the TR2 CPart13 has seen a decrease in catch rates for plaice; though absolute catch by the main TR2 fleet operating in the North Sea (Scotland) is low, reflecting the fact that it is largely a Nephrops targeted fishery in more northerly waters.

CPUE for sole (Table 5.3.4.3) is highest for GT1 again in 2011, following a drop in 2010. CPUE and LPUE for the dominant gear in terms of absolute landings (BT2; Table 5.3.3.1) has decreased slightly over the past two years, following three years of successive increase.

Tables showing LPUE and CPUE by gear groups (regulated and unregulated), area and nation are not presented in this report but are available on the JRC website: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

Table 5.3.4.1 Skagerrak, North Sea (incl. 2EU) and Eastern Channel. Cod CPUE (g/(kW*days)) by regulated gear category and year, 2003-2011, sorted in descending order with regards to CPUE 2011.

SPECIES	AREA	GEAR	SPECON	2003	2004	2005	2006	2007	2008	2009	2010	2011	2009-2011
COD	3b	TR1	CPART13	0	0	0	0	0	0	1042	1164	980	1062
COD	3b	GN1	none	743	929	929	807	795	819	905	1070	913	964
COD	3b	TR1	none	402	471	534	549	749	1170	930	983	800	908
COD	3b	LL1	none	413	306	362	593	459	333	137	491	494	317
COD	3b	TR2	none	179	186	192	224	336	237	334	386	279	333
COD	3b	BT1	none	111	213	221	234	187	256	132	184	263	190
COD	3b	TR2	CPART13	0	0	0	0	0	0	174	179	182	178
COD	3b	GT1	none	140	92	78	60	63	97	119	150	120	128
COD	3b	BT2	none	52	60	47	49	43	88	68	54	43	56
COD	3b	TR3	none	15	8	11	15	4	57	3	14	8	10
COD	3b	TR2	CPART11	0	0	0	0	0	0	5	103	1	38

Table 5.3.4.2 Skagerrak, North Sea (incl. 2EU) and Eastern Channel. Plaice CPUE (g/(kW*days)) by regulated gear category and year, 2003-2011, sorted in descending order with regards to CPUE 2011.

SPECIES	AREA	GEAR	SPECON	2003	2004	2005	2006	2007	2008	2009	2010	2011	2009-2011
PLE	3b	BT1	none	1213	1111	1008	1374	1420	1434	2041	2094	2632	2242
PLE	3b	TR1	none	264	352	322	501	462	612	1118	1557	1889	1498
PLE	3b	BT2	none	1323	1185	1050	1155	1118	1355	1753	1777	1885	1801
PLE	3b	GN1	none	1064	758	808	728	679	645	3307	556	632	1504
PLE	3b	GT1	none	282	344	332	234	179	174	298	1080	615	618
PLE	3b	TR1	CPART13	0	0	0	0	0	0	399	440	497	443
PLE	3b	TR2	none	500	404	356	381	213	237	356	484	423	416
PLE	3b	TR2	CPART13	0	0	0	0	0	0	352	268	254	294
PLE	3b	TR2	CPART11	0	0	0	0	0	0	43	74	67	61
PLE	3b	TR3	none	13	6	7	13	6	0	1	9	21	9
PLE	3b	LL1	none	2	27	3	5	0	0	1	0	0	1

Table 5.3.4.3 Skagerrak, North Sea (incl. 2EU) and Eastern Channel. Sole CPUE (g/(kW*days)) by regulated gear category and year, 2003-2011, sorted in descending order with regards to CPUE 2011.

SPECIES	AREA	GEAR	SPECON	2003	2004	2005	2006	2007	2008	2009	2010	2011	2009-2011
SOL	3b	GT1	none	598	527	493	351	407	533	532	326	597	492
SOL	3b	BT2	none	319	339	279	259	302	362	385	363	348	367
SOL	3b	GN1	none	187	164	195	177	188	237	305	234	208	250
SOL	3b	TR2	none	24	33	16	124	29	27	148	38	43	82
SOL	3b	BT1	none	17	13	8	9	8	11	15	9	10	11
SOL	3b	TR2	CPART13	0	0	0	0	0	0	11	5	9	8
SOL	3b	TR3	none	1	0	1	0	1	5	7	2	8	5
SOL	3b	TR2	CPART11	0	0	0	0	0	0	1	0	5	2
SOL	3b	LL1	none	0	0	0	0		0	0	0	3	1
SOL	3b	TR1	none	1	1	1	2	1	1	2	2	2	2
SOL	3b	TR1	CPART13	0	0	0	0	0	0	1	0	0	1

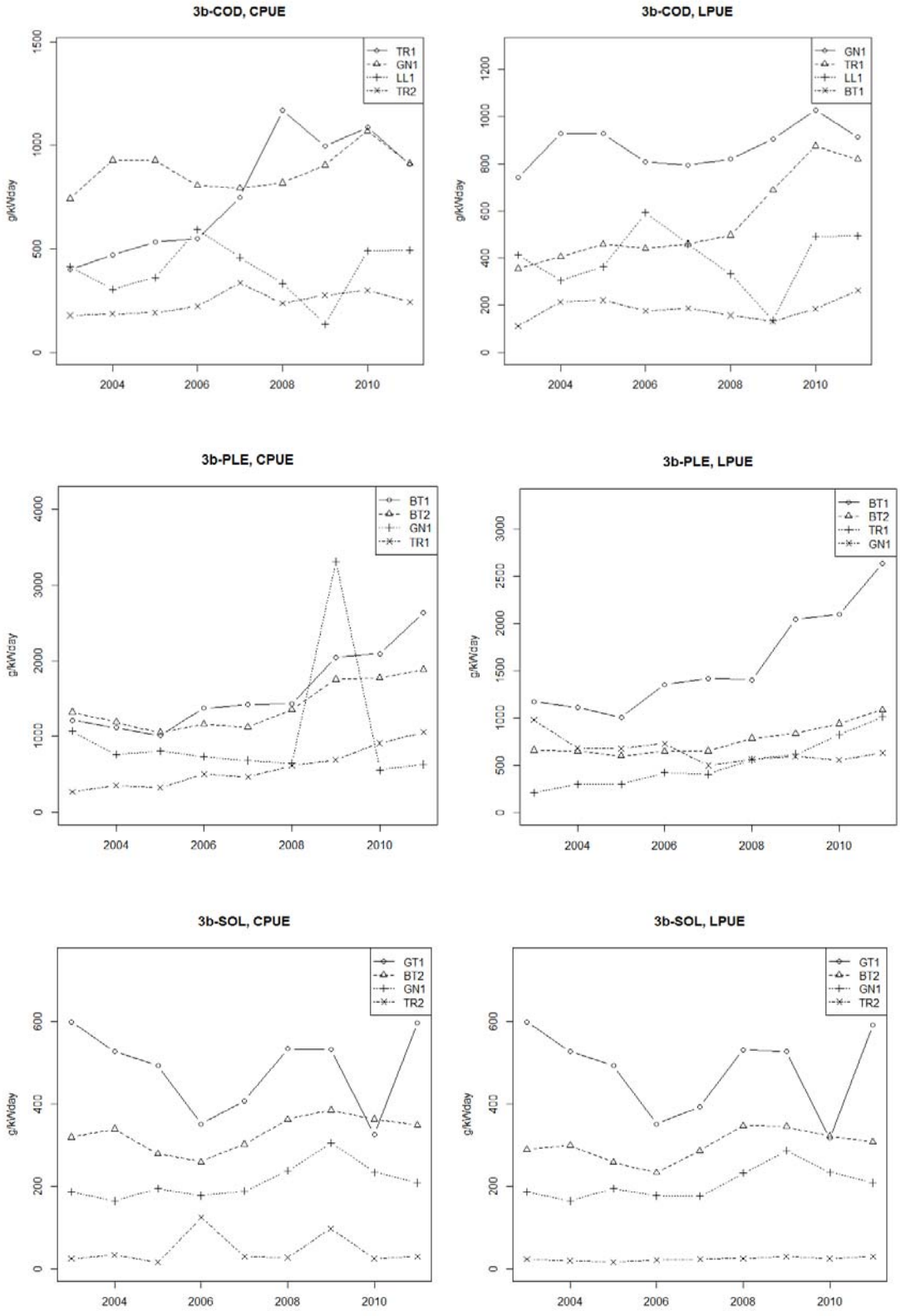


Figure 5.3.4.1 Area 3b. CPUE and LPUE (g/(kW*days) of cod, plaice and sole for the four main cod plan categories.

5.3.5 ToR 2 Rank regulated gear groups on the basis of catches expressed both in weight and in number of cod

Rankings of gears in terms of catches and landings are shown in Tables 5.3.5.1 and 5.3.5.2.

With regards to cod, TR1 and TR2 accumulate to more than 80% of the catches in 2011. The most important gears for plaice are BT2 and TR1, while for sole BT2 alone contributes to more than 80% of the catches.

Ranking in number is not dealt with in this section; number can be found at the website

(http://stecf.jrc.ec.europa.eu/web/stecf/ewg12) in Appendix 3.

Table 5.3.5.1. Skagerrak, North Sea including 2 EU and Eastern Channel: Ranked categories according to relative cod, plaice and sole **catches** in weight in area 3b, 2004-2011. Ranking is according to the year 2011.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	Cumul 2011
IIa	3b	COD	TR1	0.46575	0.42478	0.48485	0.48537	0.50881	0.67349	0.63845	0.63992	0.646	1.000
IIa	3b	COD	TR2	0.24561	0.24957	0.23033	0.25683	0.32166	0.16589	0.20181	0.19286	0.18392	0.354
IIa	3b	COD	GN1	0.11957	0.13761	0.12832	0.10592	0.06904	0.05569	0.07107	0.08713	0.09157	0.170
IIa	3b	COD	BT2	0.11876	0.1309	0.10078	0.0883	0.06567	0.07871	0.06815	0.05383	0.04773	0.079
IIa	3b	COD	BT1	0.02368	0.04029	0.03838	0.04384	0.01962	0.01214	0.00569	0.00817	0.01345	0.031
IIa	3b	COD	GT1	0.01746	0.01158	0.01173	0.01129	0.00987	0.00825	0.01163	0.01038	0.01129	0.017
IIa	3b	COD	LL1	0.00738	0.00433	0.00455	0.00748	0.00522	0.00458	0.00314	0.00726	0.00592	0.006
IIa	3b	COD	TR3	0.00178	0.00095	0.00106	0.00098	0.00011	0.00126	0.00005	0.00046	0.00013	0.000

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	Cumul 2011
IIa	3b	PLE	BT2	0.67564	0.67977	0.68162	0.62144	0.6937	0.65224	0.62046	0.63737	0.62112	1.000
IIa	3b	PLE	TR1	0.06812	0.08294	0.08805	0.13131	0.12742	0.18988	0.15571	0.19357	0.22261	0.379
IIa	3b	PLE	TR2	0.15245	0.14136	0.12864	0.12949	0.08281	0.08952	0.09118	0.09181	0.08068	0.156
IIa	3b	PLE	BT1	0.05757	0.05499	0.05274	0.0761	0.06063	0.03667	0.03105	0.03358	0.0397	0.076
IIa	3b	PLE	GN1	0.03809	0.02932	0.03365	0.02834	0.02396	0.02366	0.0914	0.01642	0.01873	0.036
IIa	3b	PLE	GT1	0.00779	0.01132	0.01508	0.01303	0.01142	0.00801	0.01019	0.02712	0.01705	0.017
IIa	3b	PLE	TR3	0.00033	0.0002	0.0002	0.00025	0.00007	0.00001	0.00001	0.00011	0.0001	0.000
IIa	3b	PLE	LL1	0.00001	0.0001	0.00001	0.00002	0	0	0.00001	0.00001	0.00001	0.000

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	Cumul 2011
IIa	3b	SOL	BT2	0.83737	0.84388	0.83018	0.66665	0.80777	0.79769	0.7222	0.85981	0.79336	1.000
IIa	3b	SOL	GT1	0.08498	0.07509	0.10249	0.0935	0.11145	0.11275	0.09624	0.05414	0.11436	0.207
IIa	3b	SOL	TR2	0.03783	0.04969	0.02703	0.2021	0.04933	0.04615	0.13396	0.03779	0.04684	0.092
IIa	3b	SOL	GN1	0.03451	0.02752	0.03728	0.03292	0.02847	0.03981	0.04464	0.0456	0.04263	0.045
IIa	3b	SOL	TR1	0.00112	0.00089	0.0009	0.00237	0.00144	0.00191	0.00148	0.00157	0.00147	0.003
IIa	3b	SOL	BT1	0.00412	0.00289	0.00203	0.00242	0.00149	0.00137	0.0012	0.00091	0.001	0.001
IIa	3b	SOL	TR3	0.00008	0.00004	0.00009	0.00005	0.00005	0.00033	0.00028	0.00018	0.00027	0.000
IIa	3b	SOL	LL1	0	0	0	0		0	0	0	0.00007	0.000

Table 5.3.5.2. Skagerrak, North Sea including 2 EU and Eastern Channel: Ranked categories according to relative cod, plaice and sole **landings** in weight in area 3b, 2004-2011. Ranking is according to the year 2011.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	Cumul 2011
IIa	3b	COD	TR1	0.48039	0.47412	0.52462	0.53877	0.55353	0.58893	0.6556	0.68561	0.68751	1.000
IIa	3b	COD	TR2	0.18269	0.16651	0.14857	0.13941	0.15713	0.13295	0.12242	0.10586	0.11565	0.313
IIa	3b	COD	GN1	0.13951	0.17845	0.16157	0.14654	0.12232	0.11461	0.10567	0.11126	0.10812	0.197
IIa	3b	COD	BT2	0.13866	0.10675	0.09489	0.10251	0.10534	0.1192	0.0858	0.06232	0.05242	0.089
IIa	3b	COD	BT1	0.02766	0.05229	0.04846	0.04544	0.03476	0.01533	0.00846	0.01089	0.01588	0.036
IIa	3b	COD	GT1	0.02039	0.01503	0.01481	0.01562	0.01748	0.01697	0.01729	0.01378	0.01329	0.020
IIa	3b	COD	LL1	0.00862	0.00561	0.00574	0.01035	0.00925	0.00942	0.00467	0.00967	0.00699	0.007
IIa	3b	COD	TR3	0.00208	0.00124	0.00134	0.00136	0.0002	0.00259	0.00007	0.00061	0.00015	0.000

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	Cumul 2011
IIa	3b	PLE	BT2	0.59944	0.60548	0.62229	0.55857	0.61493	0.5617	0.54642	0.53247	0.49745	1.000
IIa	3b	PLE	TR1	0.09477	0.11409	0.13023	0.17751	0.17083	0.25969	0.25694	0.27735	0.29694	0.503
IIa	3b	PLE	TR2	0.1292	0.12839	0.09377	0.07697	0.07728	0.0826	0.0898	0.09639	0.1006	0.206
IIa	3b	PLE	BT1	0.09951	0.08998	0.08424	0.12019	0.09254	0.05348	0.05755	0.0531	0.05526	0.105
IIa	3b	PLE	GN1	0.06255	0.04307	0.04506	0.04543	0.02689	0.03074	0.03037	0.02596	0.02605	0.050
IIa	3b	PLE	GT1	0.01391	0.01852	0.02409	0.02088	0.01743	0.01177	0.01888	0.01453	0.02355	0.024
IIa	3b	PLE	TR3	0.0006	0.00032	0.00031	0.00041	0.00011	0.00002	0.00002	0.00017	0.00013	0.000
IIa	3b	PLE	LL1	0.00001	0.00016	0.00002	0.00003	0	0	0.00002	0.00001	0.00001	0.000

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	Cumul 2011
IIa	3b	SOL	BT2	0.82504	0.84427	0.81882	0.78546	0.81306	0.79378	0.78317	0.84581	0.77358	1.000
IIa	3b	SOL	GT1	0.09256	0.08524	0.10946	0.12226	0.1144	0.11665	0.11539	0.05834	0.12482	0.226
IIa	3b	SOL	TR2	0.03903	0.03501	0.02867	0.0442	0.04101	0.04547	0.04732	0.04209	0.05154	0.102
IIa	3b	SOL	GN1	0.03759	0.03124	0.03982	0.04304	0.02836	0.04042	0.05055	0.05079	0.04697	0.050
IIa	3b	SOL	TR1	0.00122	0.00092	0.00096	0.00182	0.00153	0.00199	0.00179	0.00175	0.00162	0.003
IIa	3b	SOL	BT1	0.00449	0.00328	0.00217	0.00316	0.00159	0.00136	0.00145	0.00101	0.00111	0.001
IIa	3b	SOL	TR3	0.00009	0.00004	0.0001	0.00006	0.00005	0.00034	0.00033	0.0002	0.00029	0.000
IIa	3b	SOL	LL1	0	0	0	0		0	0	0	0.00007	0.000

5.3.6 ToR 3 Remarks on quality of catches and discard estimates

STECF EWG 12-12 has no specific comments in addition to those given in section 4.

5.3.7 ToR 4 Information on small boats (<10m)

5.3.7.1 Fishing effort of small boats by Member State

Effort (Table 5.3.7.1.1) is provided for the vessels under 10m (including Article 11 vessels!) in area 3b, for all countries except Belgium. German data are incomplete as logbook information is not mandatory for vessels under 10m in Germany. UK data are poor until the introduction of registration of buyers and sellers legislation in 2006 after which recording of effort has improved. Danish data are incomplete till 2010. Therefore, up to 2010 data have to be regarded as not representative and should not be interpreted. Especially the increase in effort around 2006 and 2010 does most likely not mean an increase in effort in reality. Between 2010 and 2011 effort was stable. In 2011 around half of the effort is operated with Pots (47%), and secondly GN1 (13%) and TR2 (12%). Unregulated gears account for 60% of total effort from vessels <10m. The highest effort in 2011 was recorded by England, Scotland and France (Table 5.3.7.1.2.)

For the whole area 3b in 2011, the effort from vessels <10m was 10% of the total effort in this area.

Table 5.3.7.1.1 Skagerrak, North Sea and Eastern Channel. Fishing effort (kWdays) by vessels <10m. Data before 2010 are not representative! Data include Art. 11 vessels!

GEAR	2005	2006	2007	2008	2009	2010	2011
BEAM	36682	46668	73298	111725	81100	38393	47716
BT1	4	4				4	4
BT2	45250	35829	62071	65656	58840	51668	30057
DEM_SEINE	301	503	457	679	6052	4971	197
DREDGE	265709	259194	271683	365924	356467	328637	375556
GN1	449130	967760	1795130	1695956	1804621	1679578	1557873
GT1	612516	873714	514275	473795	563927	634550	1019166
LL1	262614	213202	378603	329965	242143	504597	548186
none	126546	98136	106787	84641	186447	838170	909115
OTTER	236578	71367	91865	77770	119320	145596	100782
PEL_SEINE	5461	5540	4176	15475	19220	27581	3466
PEL_TRAWL	11819	5010	11413	19155	31387	28456	27752
POTS	2620079	5289854	5404850	5176992	5654504	6473804	5855289
TR1	71177	99442	184075	322486	256321	258155	265313
TR2	1084900	1312286	1586111	1255512	1175079	1271477	1536192
TR3	128588	170654	128513	53370	55091	58102	69366
Total	5957354	9449163	10613307	10049101	10610519	12343739	12346030

Table 5.3.7.1.2 Skagerrak, North Sea and Eastern Channel. Fishing effort (kWdays) by vessels <10m by country.

COUNTRY	2005	2006	2007	2008	2009	2010	2011
DEU	8359	33326	48357	31085	38899	26849	39088
DNK	3862	6718	3526	2788	4737	660643	721329
ENG	1814928	4599388	5779502	5671978	4988765	4838386	5528687
FRA	1593914	1664842	1498554	892023	889152	1894080	1651056
GBC							
GBG	597	2939		224			
NIR	209	14136	1672	112	371		112
NLD	155640	176535	174381	197396	215075	237511	185237
SCO	2237074	2729893	2959815	3099954	3399031	3491486	3492902
SWE	142771	221386	147500	153541	1074489	1194784	727619
Total	5957354	9449163	10613307	10049101	10610519	12343739	12346030

5.3.7.2 Catches (landings and discards) of cod and associated species by small boats by Member State

Landings are provided for the vessels under 10m in area 3b, for all countries except Belgium, for the top 10 species ranked according to landings in 2011 (Table 5.3.7.2.1). The main fishery is for edible crab, and secondly for cod, Nephrops and plaice. For the whole area 3b in 2011, the landings from vessels <10m represent around 5, 7, 9 and 2% of the total landings of cod, Nephrops, sole and plaice, respectively. Information by country is available from the STECF website.

The details by gear for cod, plaice and sole is given in Table 5.3.7.2.2. From the regulated gears passive gears are most important. However, substantial landings are reported under none for vessels <10m.

Table 5.3.7.2.1 Skagerrak, North Sea and Eastern Channel. Landings (t) by vessels <10m. Only top 10 species according to landings in 2011 are shown. Information for other species is available from the STECF website.

SPECIES	2003 L	2004 L	2005 L	2006 L	2007 L	2008 L	2009 L	2010 L	2011 L
CRE	3615	3092	2182	4211	4212	3917	3473	3822	4097
OTH	1654	1609	1678	1796	2103	2166	3389	2076	2296
COD	1740	1869	1863	1843	1400	1558	1574	1530	1482
PLE	1492	1342	1306	1613	1230	1322	1556	1283	1460
NEP	822	1138	1649	2304	2007	1460	1920	1288	1295
SOL	991	987	789	933	1108	1037	1508	1032	1286
MAC	439	500	441	523	453	527	551	821	851
HER	233	313	505	731	555	517	851	835	647
SCE	502	587	559	584	549	569	558	580	631
BSS	231	273	254	225	250	287	383	531	414
Total	**11719**	**11710**	**11226**	**14763**	**13867**	**13360**	**15763**	**13798**	**14459**

Table 5.3.7.2.2 Skagerrak, North Sea and Eastern Channel. Landings (t) of cod, plaice and sole by vessels under 10m, 2005-2011

SPECIES	REG_GEAR	2005 L	2006 L	2007 L	2008 L	2009 L	2010 L	2011 L
COD	BEAM	0					1	0
COD	BT1							0
COD	BT2	0	0	0	0	36	1	2
COD	DREDGE	0	0	1	0	2	0	4
COD	GN1	640	883	580	660	569	461	372
COD	GT1	66	67	62	67	128	94	102
COD	LL1	108	124	172	262	229	297	161
COD	none	951	600	411	398	370	443	571
COD	OTTER	28	4	1	0	0	1	0
COD	PEL_SEINE					0		
COD	PEL_TRAWL	1	1	0	0	0		0
COD	POTS	11	11	8	18	52	46	58
COD	TR1	34	46	53	77	85	73	75
COD	TR2	24	107	112	76	103	113	137
COD	TR3		0	0	0			
COD total		**1863**	**1843**	**1400**	**1558**	**1574**	**1530**	**1482**
PLE	BEAM	6	0	0	0	0	0	0
PLE	BT2	60	38	41	36	373	23	28
PLE	DREDGE	0	1	3	3	2	0	3
PLE	GN1	299	396	327	368	368	301	334
PLE	GT1	123	136	115	65	78	126	130
PLE	LL1	3	2	1	1	1	2	2
PLE	none	602	582	396	499	394	464	592
PLE	OTTER	81	12	1	0	0	12	9
PLE	PEL_TRAWL	1	0	1	1	1	0	2
PLE	POTS	0	1	2	4	9	6	28
PLE	TR1	80	169	160	249	191	233	174
PLE	TR2	51	276	183	96	139	115	158
PLE	TR3	0	0	0	0		1	
PLE total		**1306**	**1613**	**1230**	**1322**	**1556**	**1283**	**1460**
SOL	BEAM	7	0	0	0	0	0	0
SOL	BT2	40	22	44	42	326	20	16
SOL	DREDGE	0	1	2	3	1	0	11
SOL	GN1	247	398	572	445	597	492	474
SOL	GT1	268	195	119	144	156	149	309
SOL	LL1	2	1	0	3	3	7	2
SOL	none	56	34	38	50	51	27	38
SOL	OTTER	82	34	1	0	1	8	19
SOL	PEL_SEINE					0		
SOL	PEL_TRAWL	0	0	0	0	0	0	0
SOL	POTS	1	0	2	14	6	14	15
SOL	TR1	3	8	24	99	90	60	57
SOL	TR2	83	239	305	237	277	255	345
SOL	TR3	0	1	1			0	
SOL total		**789**	**933**	**1108**	**1037**	**1508**	**1032**	**1286**

5.3.8 ToR 5 Evaluation of fully documented fisheries FDF

5.3.8.1 Fishing effort of FDF by Member State and fisheries in comparison with fisheries not working under FDF provisions

Table 5.3.8.1.1 shows that during 2010 nominal fishing effort (KW*days) by vessels operating in Fully Documented Fisheries (FDF) trials in the Skagerrak, North Sea and Eastern Channel was a small proportion of the total effort (2.2%), but was significant for the main cod gear (14% of effort by otter trawls of ≥120 mm mesh size (TR1)).

In 2011 FDF is still a small proportion of the total effort (4.9%), but it's increasing. The significance for the main cod gear has increased further and is 27.2% now. All FDF countries contributed to this increase.

With respect to the number of vessels that participate in FDF EWG12-12 assumes that only vessels of the TR1 gear group target cod. The number of TR1vessels participating in FDF increases from 23 in 2010 to 44 2011. These numbers must be used with care because some TR1 vessels also apply GN1 gears, so overlap can occur.

Table 5.3.8.1.1 Skagerrak, North Sea and Eastern Channel: (A part 1) total fishing effort for countries with Fully Documented Fisheries (FDF, REM/CCTV), (B) FDF (REM/CCTV) nominal fishing effort (kW days) and (A part 2, C) the percentage of total effort attributable to FDFs. The figures for 2010 are slightly changed compared to the ones of last year's report, due to a revision of the Danish and UK FDF data for 2010.

Table A (part 1)

Country	Gear	2010	2011
DNK	BEAM	944206	583866
	BT1	569744	433062
	BT2	3678	440
	DEM_SEINE		104
	DREDGE	263639	396732
	GN1	1567471	1443100
	GT1	178830	223000
	LL1	48293	62587
	none	77474	146197
	OTTER	5540793	5884277
	PEL_SEINE	666954	343153
	PEL_TRAWL	3995534	3596601
	POTS	8460	6205
	TR1	4972090	4582610
	TR2	3199997	3317731
	TR3	1077111	334898
DNK Total		23114274	21354563
ENG	BEAM	476966	153483
	BT1	202684	169873
	BT2	3528678	2942307
	DEM_SEINE	4500	946
	DREDGE	876060	778036
	GN1	211651	252170
	GT1	25367	20026
	LL1	57724	44458
	OTTER	15400	182326
	PEL_TRAWL	888582	896373
	POTS	1495974	1610174
	TR1	2110555	2142321
	TR2	1720025	1620355
	TR3	718	621
ENG Total		11614884	10813469
NLD	BEAM	5213264	4126270
	BT1	488309	308958
	BT2	28648855	25777844
	DEM_SEINE	38466	
	DREDGE	462376	497268
	GN1	357091	316070
	GT1	37399	21431
	OTTER	73483	4111
	PEL_SEINE	5453	
	PEL_TRAWL	2522113	2242925
	POTS	12594	6133
	TR1	1415882	1176692
	TR2	1936340	1921901
	TR3	31973	23268
NLD Total		41243598	36422871
SCO	BEAM		
	BT1		
	BT2	144306	
	DEM_SEINE	905	1125
	DREDGE	2616884	2204099
	GN1	440579	607650
	LL1	301689	156352
	none	41037	55224
	OTTER	857080	668510
	PEL_SEINE	1006	61300
	PEL_TRAWL	1132259	1283926
	POTS	1053821	1058202
	TR1	10444829	9986666
	TR2	8302801	6807292
	TR3	27524	
SCO Total		25364720	22890346
Grand Total		101337476	91481249

Table B

Country	Gear	2010	2011
DNK	BEAM		
	BT1		
	BT2		
	DEM_SEINE		
	DREDGE		
	GN1		12669
	GT1		
	LL1		11445
	none	3170	10560
	OTTER		660
	PEL_SEINE		
	PEL_TRAWL	2420	
	POTS	983	
	TR1	1038901	2175182
	TR2	10290	22030
	TR3		
DNK Total		1055764	2232546
ENG	BEAM		
	BT1		
	BT2		
	DEM_SEINE		
	DREDGE	9847	2685
	GN1	22101	31604
	GT1		
	LL1		
	OTTER		3395
	PEL_TRAWL		
	POTS	597	
	TR1	425333	686953
	TR2		
	TR3		
ENG Total		457878	724637
NLD	BEAM		442
	BT1		
	BT2		
	DEM_SEINE		
	DREDGE		
	GN1		4862
	GT1		663
	OTTER		
	PEL_SEINE		
	PEL_TRAWL		
	POTS		
	TR1		197344
	TR2		211502
	TR3		
NLD Total			414813
SCO	BEAM		
	BT1		
	BT2		
	DEM_SEINE		
	DREDGE		
	GN1		
	LL1		
	none		
	OTTER		
	PEL_SEINE		
	PEL_TRAWL		
	POTS		
	TR1	1531775	2869441
	TR2	81403	
	TR3		
SCO Total		1613178	2869441
Grand Total		3126820	6241437

Table C

2010	2011
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
	0.0%
0.0%	0.0%
0.0%	0.9%
0.0%	0.0%
0.0%	18.3%
4.1%	7.2%
0.0%	0.0%
0.0%	0.0%
0.1%	0.0%
11.6%	0.0%
20.9%	47.5%
0.3%	0.7%
0.0%	0.0%
4.6%	10.5%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
1.1%	0.3%
10.4%	12.5%
0.0%	0.0%
0.0%	0.0%
0.0%	1.9%
0.0%	0.0%
0.0%	0.0%
20.2%	32.1%
0.0%	0.0%
0.0%	0.0%
3.9%	6.7%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	
0.0%	0.0%
0.0%	1.5%
0.0%	3.1%
0.0%	0.0%
0.0%	
0.0%	0.0%
0.0%	0.0%
0.0%	16.8%
0.0%	11.0%
0.0%	0.0%
0.0%	1.1%
0.0%	
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
14.7%	28.7%
1.0%	0.0%
0.0%	
6.4%	12.5%
3.1%	6.8%

Table A (part 2)
Effort of all IIA 3b countries by gear

Gear	2010	2011
BEAM	12674009	9003515
BT1	1748301	1558336
BT2	39106942	34041779
DEM_SEINE	43871	2175
DREDGE	4555360	4305027
GN1	3217644	3063840
GT1	2736982	2865189
LL1	584119	366261
none	203172	303705
OTTER	9754159	10088642
PEL_SEINE	1134323	1028205
PEL_TRAWL	11522732	11113899
POTS	3999459	3717444
TR1	23237382	21761123
TR2	26091546	23920674
TR3	1291022	486169
Grand Total	141901023	127625983

Gear	2010	2011
BEAM		442
BT1		
BT2		
DEM_SEINE		
DREDGE	9847	2685
GN1	22101	49135
GT1		663
LL1		11445
none	3170	10560
OTTER		4055
PEL_SEINE		
PEL_TRAWL	2420	
POTS	1580	
TR1	2996009	5928920
TR2	91693	233532
TR3		
Grand Total	3126820	6241437

2010	2011
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.2%	0.1%
0.7%	1.6%
0.0%	0.0%
0.0%	3.1%
1.6%	3.5%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
12.9%	27.2%
0.4%	1.0%
0.0%	0.0%
2.2%	4.9%

5.3.8.2 Catches (landings and discards) of cod and other species taken by FDF fisheries by Member State and fisheries in comparison with fisheries not working under FDF provisions

Cod catches were recorded in fisheries using TR1, TR2, GN1 and Pots (Table 5.3.8.2.1), but most catches (95.3% of total FDF catches) were whilst vessels were using the TR1 gear. In total, 25% of cod catches by EU vessels were taken during FDF trials; 41%, 35%, 30% and 20% of English, Scottish Danish and Dutch cod catches respectively.

Table 5.3.8.2.1 Skagerrak, North Sea and Eastern Channel: (A part 1) total catches for cod for countries with Fully Documented Fisheries (FDF, REM/CCTV) (B) catches (tonnes), and (A part 2, C) the percentage of catches attributed to FDFs.

Table A (part 1)

Country	Gear	2010	2011
DNK	BEAM	0	0
	BT1	57	33
	BT2	0	0
	DEM_SEINE	0	1
	DREDGE	1	0
	GN1	2697	2252
	GT1	149	111
	LL1	129	74
	none	5	8
	OTTER	71	54
	PEL_TRAWL	4	1
	POTS	0	0
	TR1	5537	3937
	TR2	2296	1451
	TR3	1	0
DNK Total		10947	7922
ENG	BEAM	0	0
	BT1	1	3
	BT2	96	57
	DEM_SEINE	0	0
	DREDGE	0	0
	GN1	259	207
	GT1	15	9
	LL1	29	7
	OTTER	0	1
	PEL_TRAWL	0	0
	POTS	13	5
	TR1	1500	1365
	TR2	375	421
	TR3	0	0
ENG Total		2288	2075
NLD	BEAM	25	6
	BT1	28	18
	BT2	1557	1126
	DEM_SEINE	10	0
	GN1	43	27
	GT1	33	10
	LL1	0	0
	none	0	0
	OTTER	10	1
	PEL_TRAWL	23	10
	TR1	1035	659
	TR2	516	374
	TR3	5	1
NLD Total		3285	2232
SCO	BEAM	0	0
	BT1	0	0
	BT2	9	0
	DEM_SEINE	0	0
	DREDGE	2	1
	GN1	1	1
	LL1	2	0
	none	0	0
	OTTER	1	15
	PEL_SEINE	3	0
	POTS	0	1
	TR1	14065	11182
	TR2	1465	1140
	TR3	0	0
SCO Total		15548	12340
Grand Total		32068	24569

Table B

Country	Gear	2010	2011
DNK	BEAM		
	BT1		
	BT2		
	DEM_SEINE		
	DREDGE		
	GN1	0	29
	GT1		
	LL1	0	54
	none		
	OTTER		
	PEL_TRAWL		
	POTS		
	TR1	969	2241
	TR2	0	24
	TR3		
DNK Total		969	2348
ENG	BEAM		
	BT1		
	BT2		
	DEM_SEINE		
	DREDGE	0	0
	GN1	132	151
	GT1		
	LL1		
	OTTER	0	7
	PEL_TRAWL		
	POTS	5	0
	TR1	288	692
	TR2		
	TR3		
ENG Total		425	850
NLD	BEAM	0	0
	BT1		
	BT2		
	DEM_SEINE		
	GN1	0	14
	GT1	0	1
	LL1		
	none		
	OTTER		
	PEL_TRAWL		
	TR1	0	350
	TR2	0	40
	TR3		
NLD Total		0	405
SCO	BEAM		
	BT1		
	BT2		
	DEM_SEINE		
	DREDGE		
	GN1		
	LL1		
	none		
	OTTER		
	PEL_SEINE		
	POTS		
	TR1	2330	4262
	TR2	16	0
	TR3		
SCO Total		2346	4262
Grand Total		3740	7865

Table C

2010	2011
0.0%	0.0%
	0.0%
0.0%	
0.0%	1.3%
0.0%	0.0%
0.0%	73.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
17.5%	56.9%
0.0%	1.7%
0.0%	
8.9%	29.6%
0.0%	0.0%
0.0%	0.0%
51.0%	72.9%
0.0%	0.0%
0.0%	0.0%
	700.0%
38.5%	0.0%
19.2%	50.7%
0.0%	0.0%
18.6%	41.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	
0.0%	51.9%
0.0%	10.0%
0.0%	0.0%
0.0%	0.0%
0.0%	53.1%
0.0%	10.7%
0.0%	0.0%
0.0%	18.1%
0.0%	
0.0%	0.0%
0.0%	0.0%
0.0%	
0.0%	0.0%
0.0%	
	0.0%
16.6%	38.1%
1.1%	0.0%
15.1%	34.5%
11.7%	32.0%

Table A (part 2)
Catches of all IIA 3b countries by gear

Gear	2010	2011
BEAM	51	14
BT1	322	410
BT2	2127	1459
DEM_SEINE	10	1
DREDGE	3	1
GN1	3443	2798
GT1	410	345
LL1	287	182
none	27	40
OTTER	282	302
PEL_SEINE	3	0
PEL_TRAWL	29	24
POTS	17	11
TR1	25288	19745
TR2	7705	5624
TR3	18	4
Grand Total	40022	30960

Gear	2010	2011
BEAM	0	0
BT1		
BT2		
DEM_SEINE		
DREDGE	0	0
GN1	132	194
GT1	0	1
LL1	0	54
none		
OTTER	0	7
PEL_SEINE		
PEL_TRAWL		
POTS	5	0
TR1	3587	7545
TR2	16	64
TR3		
Grand Total	3740	7865

2010	2011
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
3.8%	6.9%
0.0%	0.3%
0.0%	29.7%
0.0%	0.0%
0.0%	2.3%
0.0%	
0.0%	0.0%
29.4%	0.0%
14.2%	38.2%
0.2%	1.1%
0.0%	0.0%
9.3%	25.4%

5.3.9 ToR 6 Spatio-temporal patterns in effective effort by fisheries

Figures 5.3.9.1-5.3.9.8 show spatial distribution of effort for the eight cod plan gear categories.

It is to be noted that the display of the maps has changed compared to previous reports, and a display with color categories of equal effort spread was preferred to the previous display of categories with equal number of observations.

Otter trawls with 100+mm mesh (TR1, Figure 5.3.9.1) are the main roundfish gear and are mainly used along the Norwegian trench and the shelf edge. In all years there is a concentration of effort in the Skagerrak area and around the Shetlands, while the area between these two concentrations lose its importance over the years. Overall, there has been a decrease of effort over the years. Otter trawls with 70-99 mm mesh size (TR2, Figure 5.3.9.2) are the main Nephrops gears. They are now mostly used on the places of the largest Nephrops Functional Units (i.e. in the Fladen ground area and along the English and Scottish coast) as well as in the Skagerrak and in areas where whiting is fished, for example the English Channel. The effort in the Central North Sea and along the Norwegian waters has decreased. This category was previously dealt in two groups, below 90 mm mostly spread on the western and south-western North Sea, and above 90mm mainly used in Skagerrak. But the grouping of these two distinct groups in a single category does not allow one to observe clear spatial trends. The overall effort with TR3 gears (Figure 5.3.9.3) has declined in the North Sea. In addition, fishing areas in the northern part of the North Sea have lost their importance. Beam trawls with mesh size 120+ (BT1) are mainly used in areas IVa and IVb (Figure 5.3.9.4). There is a concentration of effort at the entrance to the Skagerrak. The extent of the fishery has declined over the years and is now restricted to the south-eastern part of the North Sea. Beam trawls with mesh size 70 to120 mm (BT2) are mainly used in the southern North Sea up to the 50m depth line to fish for flatfish (Figure 5.3.9.5). The distribution of effort moved south in recent years. One explanation could be that fishermen want to target sole and avoid plaice due to low market prices. Static gears (GN1 and GT1) have traditionally been localised closer to the shores, often in patchy fishing grounds (Figure 5.3.9.6 and 5.3.9.7). There are slight indications that fishing grounds for these gears have contracted in recent

years. Longlines (LL1) are used mainly at the north east and south east coast of England and Scotland (Figure 5.3.9.8). Long line fisheries in the central North Sea have lost their importance.

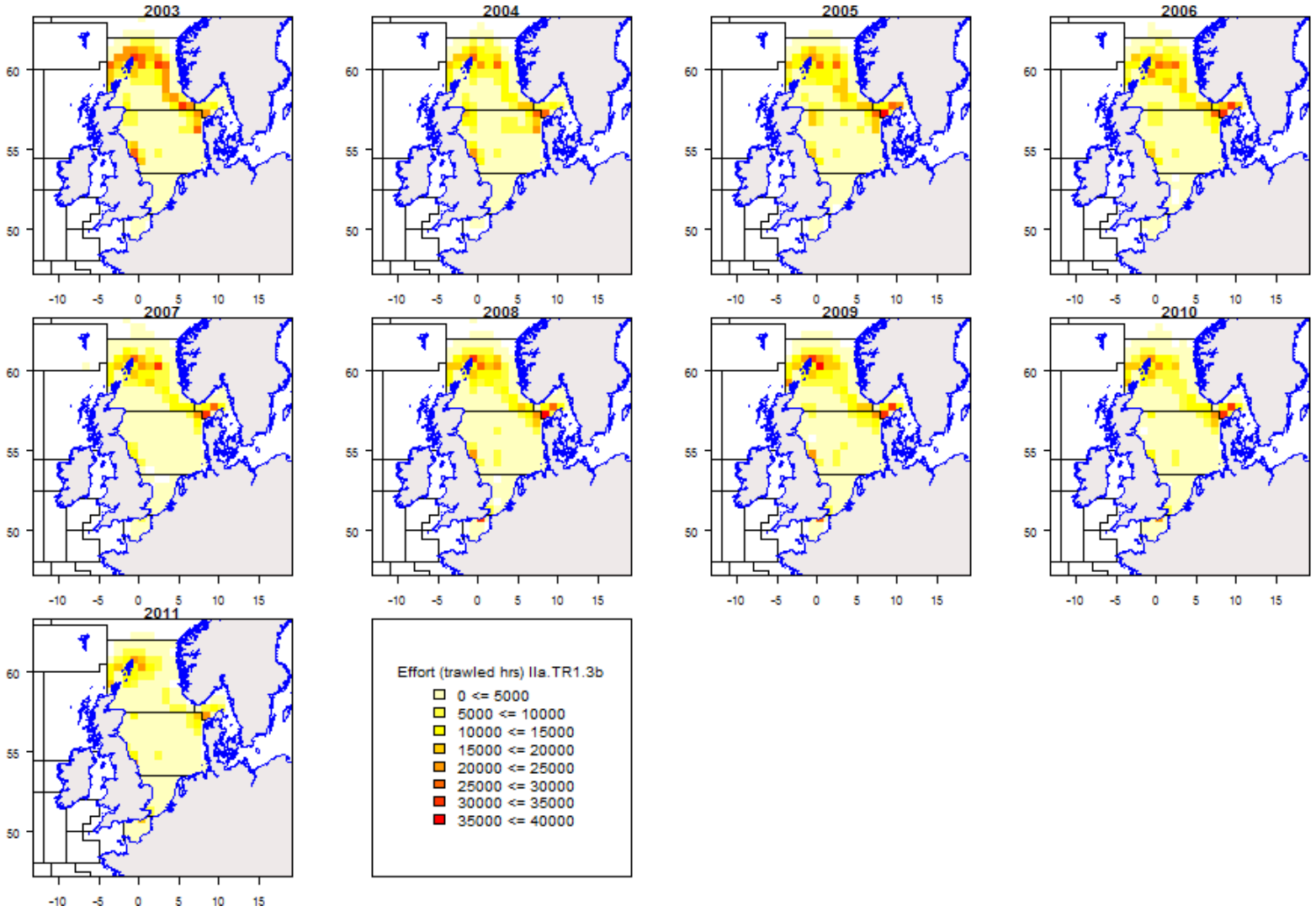


Figure 5.3.9.1 Skagerrak, North Sea including 2 EU and Eastern Channel: Effective effort distribution of TR1 gears 2003-2011.

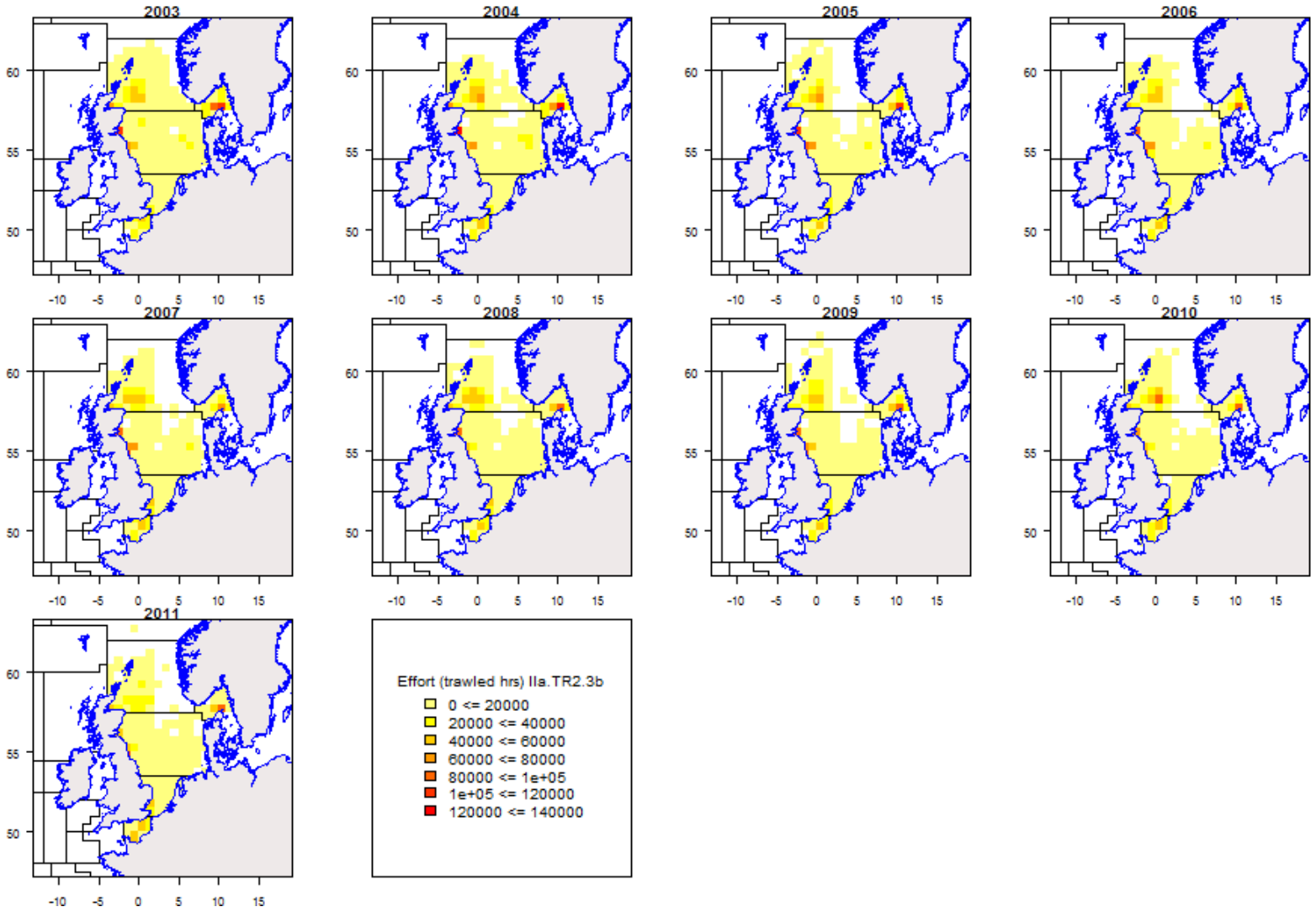


Figure 5.3.9.2 Skagerrak, North Sea including 2 EU and Eastern Channel: Effective effort distribution of TR2 gears 2003-2011.

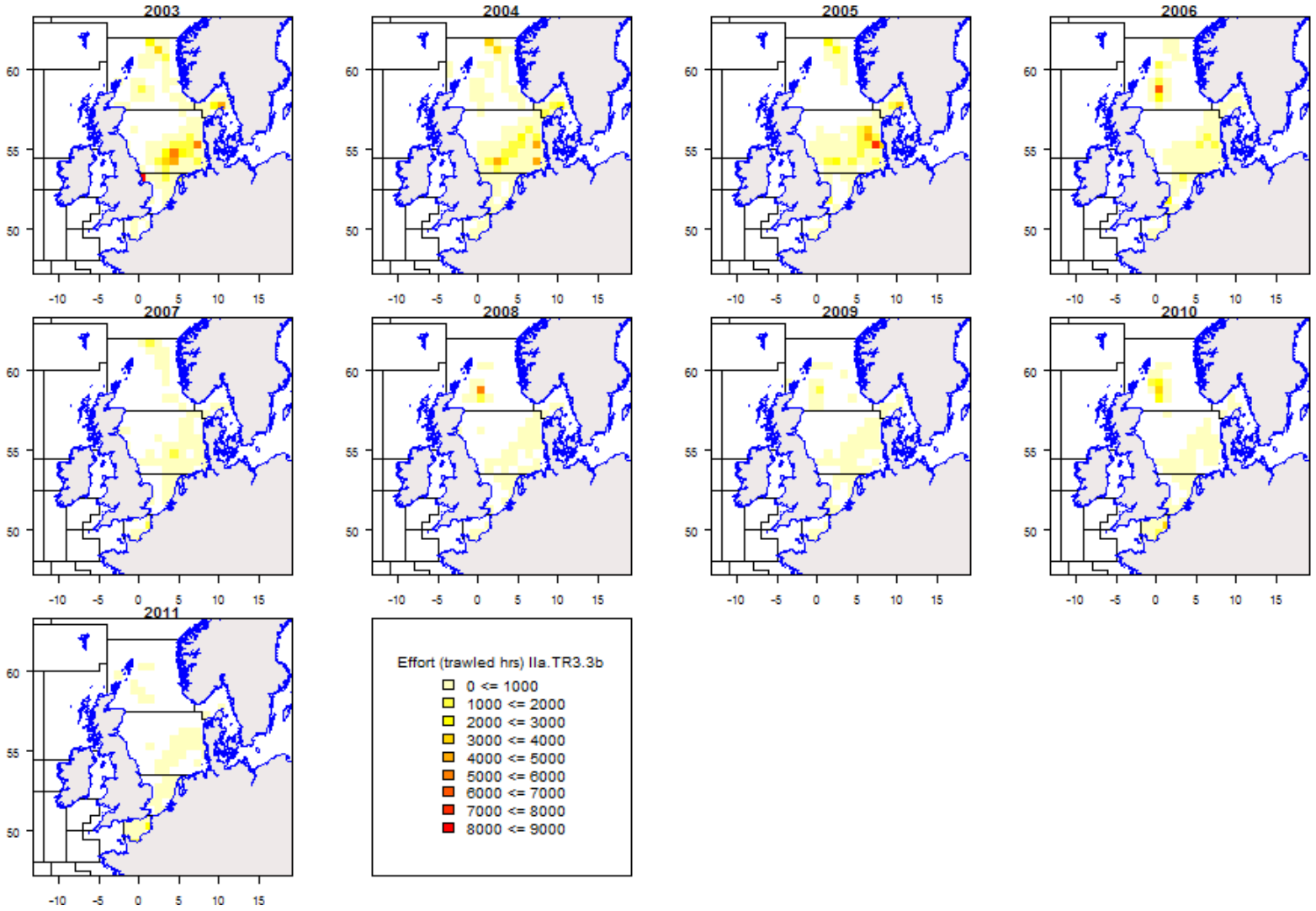


Figure 5.3.9.3 Skagerrak, North Sea including 2 EU and Eastern Channel: Effective effort distribution of TR3 gears 2003-2011.

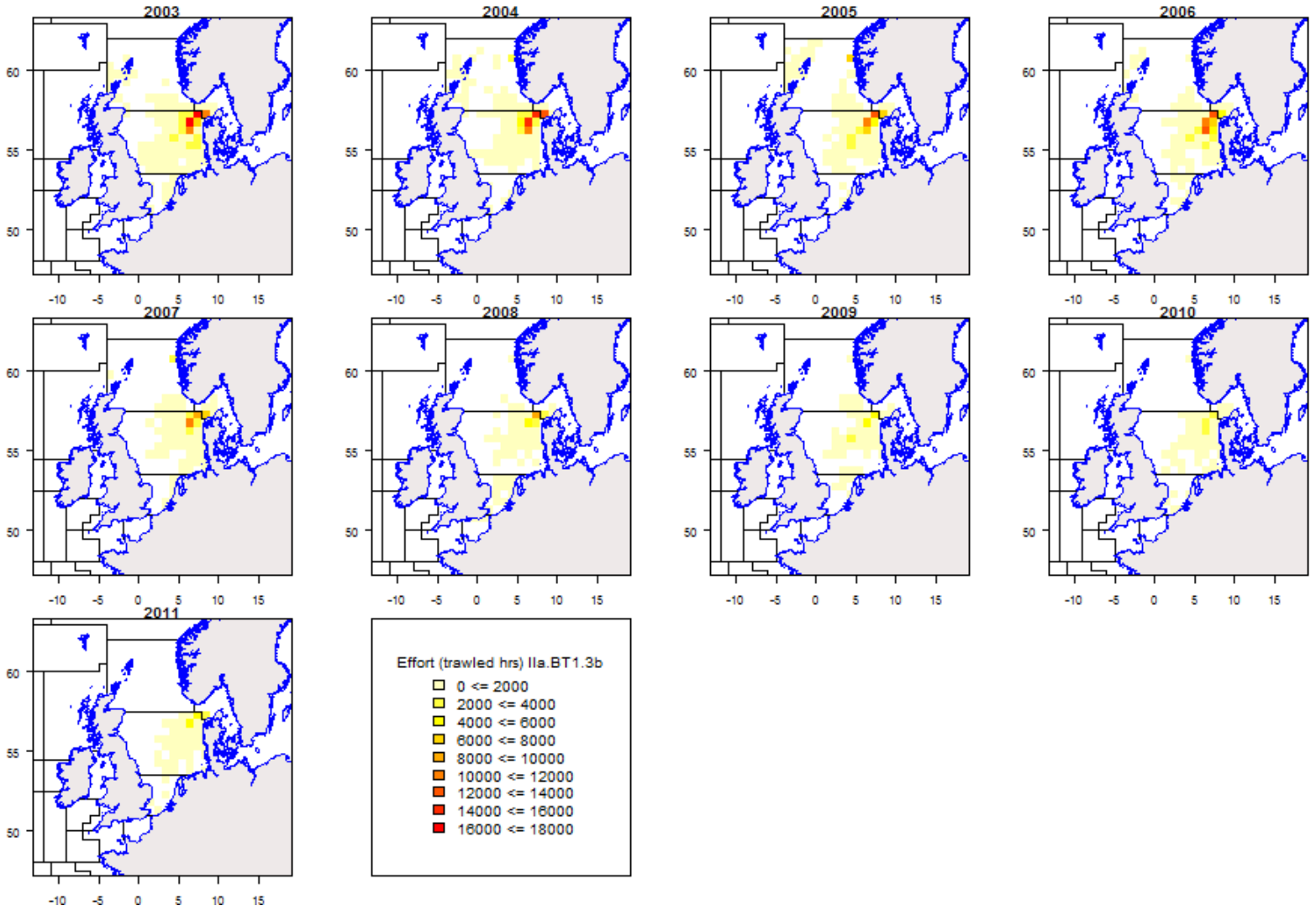


Figure 5.3.9.4 Skagerrak, North Sea including 2 EU and Eastern Channel: Effective effort distribution of BT1 gears 2003-2011.

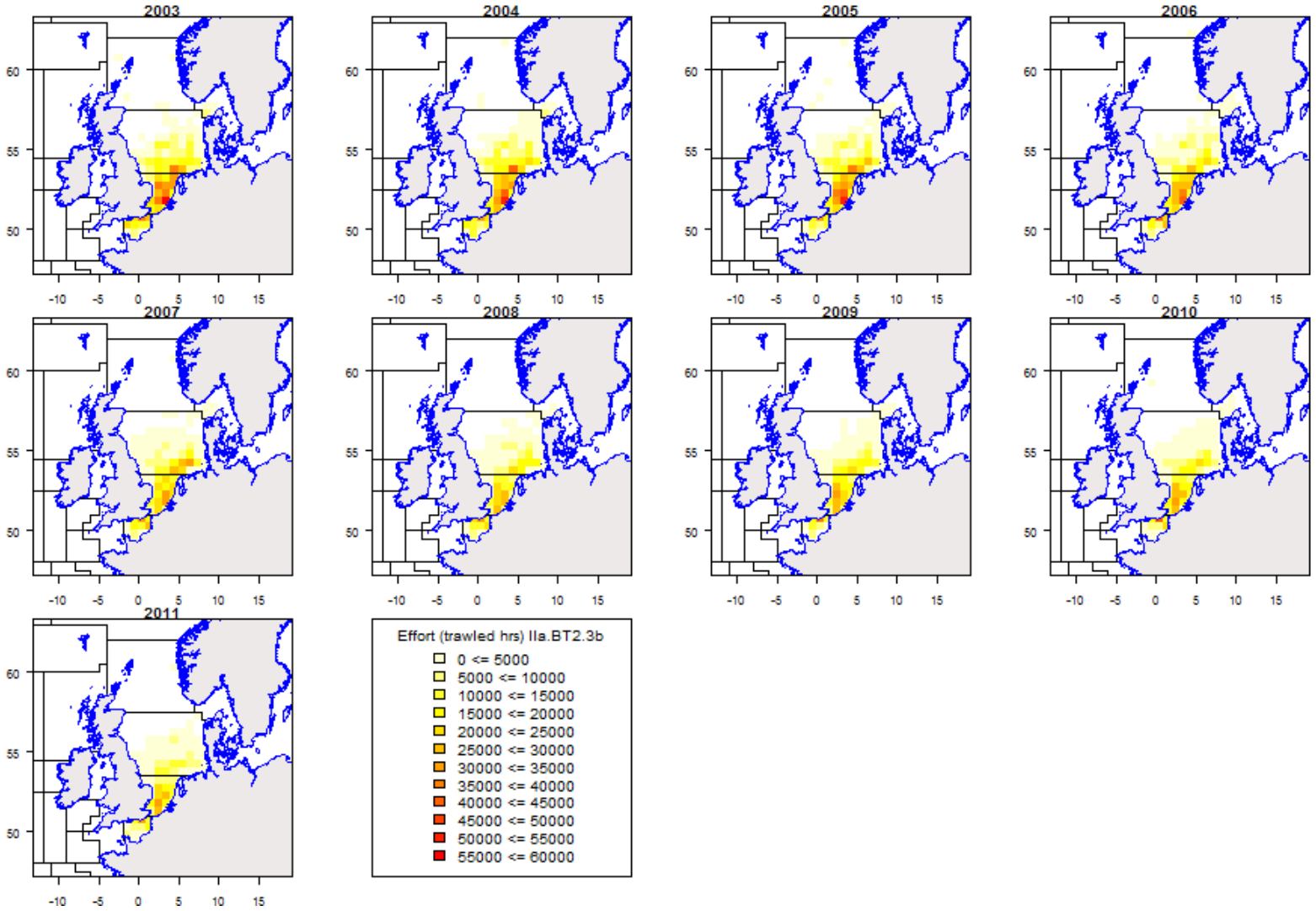


Figure 5.3.9.5 Skagerrak, North Sea including 2 EU and Eastern Channel: Effective effort distribution of BT2 gears 2003-2011.

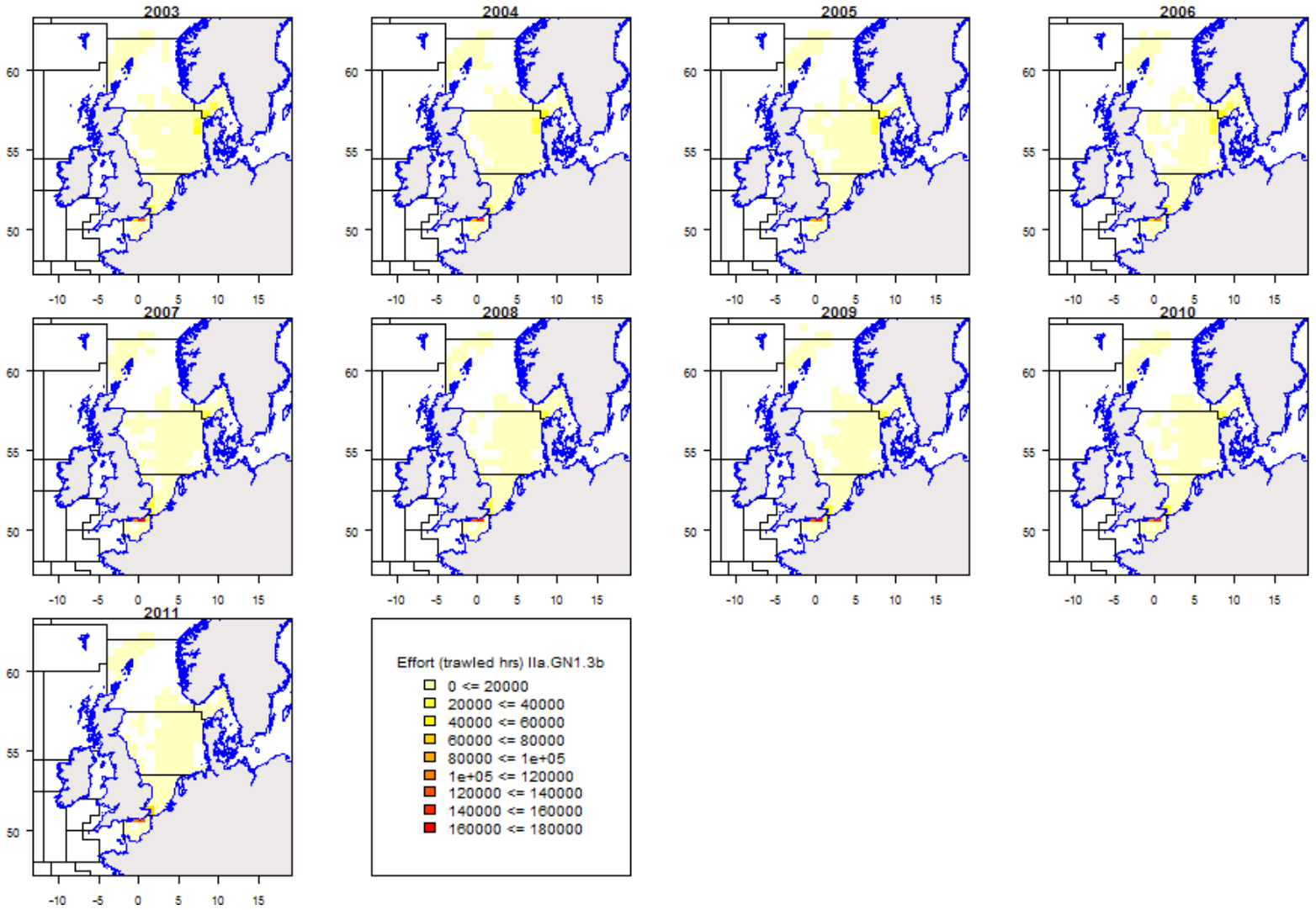


Figure 5.3.9.6 Skagerrak, North Sea including 2 EU and Eastern Channel: Effective effort distribution of GN1 gears 2003-2011.

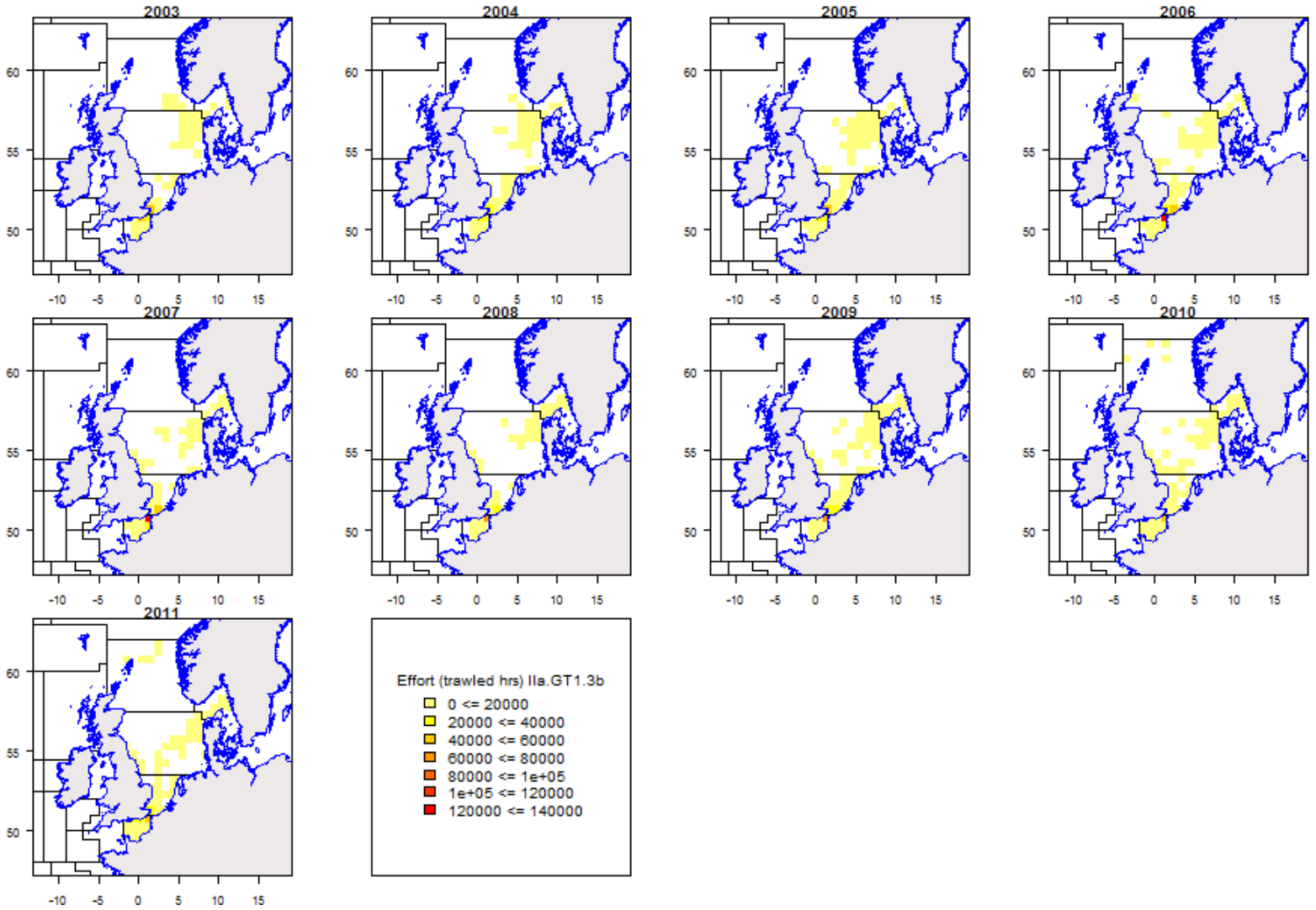


Figure 5.3.9.7 Skagerrak, North Sea including 2 EU and Eastern Channel: Effective effort distribution of GT1 gears 2003-2011.

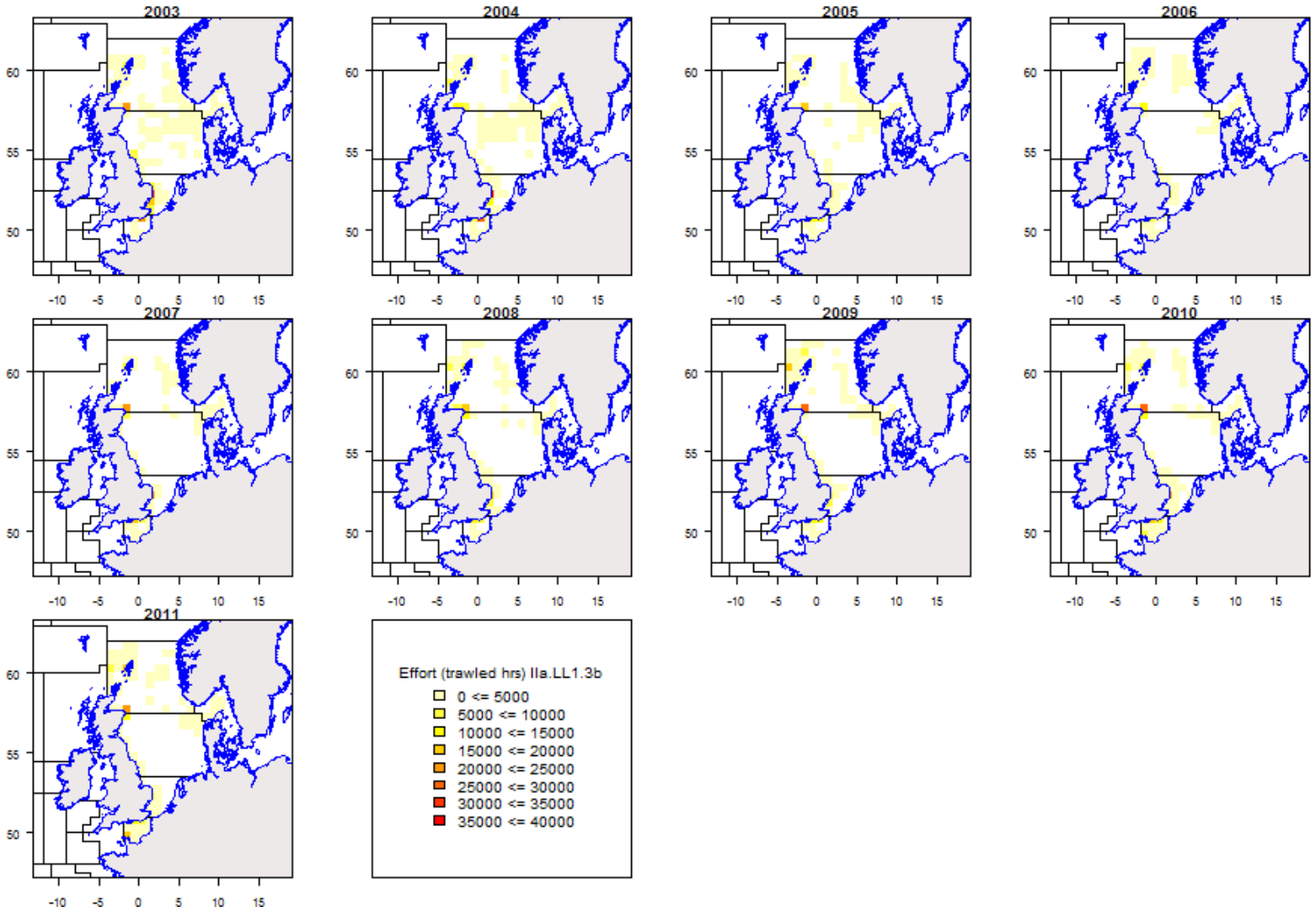


Figure 5.3.9.8 Skagerrak, North Sea including 2 EU and Eastern Channel: Effective effort distribution of LL1 gears 2003-2011.

5.3.10 ToR 7 Any unexpected evolutions of the trends in catches and effort by Member State and fisheries

STECF EWG 12-12 has no specific comments.

5.3.11 ToR 8 Correlation between partial cod mortality and fishing effort by Member State and fisheries

EWG 12-12 interprets this task as largely overlapping with ToRs 10 and 11. The EWG 12-12 analyses and response can be found in chapter 5.3.14.

5.3.12 ToR 9 Estimation of conversion factors to be applied for effort transfers between regulated gear groups

STECF EWG 12-12 presents the estimated cod CPUE and respective effort transfer factors between donor and receiving regulated gear groups. Red cells in Table 5.3.11.1 are indicated to be imprecise due to lack of adequate discard information. Yellow cells indicate sufficient sampling and green cells good sampling information.

Table 5.3.11.1 Cod CPUE (average 2009-2011) and respective effort transfer factors between donor and receiving regulated gear groups. Red cells are indicated to be imprecise due to lack of adequate discard information. Yellow cells are covered by adequate discard information while green cells are considered well representative.

	BT1	BT2	GN1	GT1	LL1	TR1	TR2	TR3	CPUE
3b BT1		1.000	0.197	1.000	0.599	0.190	0.693	1	190
3b BT2	0.295		0.058	0.438	0.177	0.056	0.204	1	56
3b GN1	1.000	1.000		1.000	1.000	0.965	1.000	1	964
3b GT1	0.674	1.000	0.133		0.404	0.128	0.467	1	128
3b LL1	1.000	1.000	0.329	1.000		0.317	1.000	1	317
3b TR1	1.000	1.000	1.000	1.000	1.000		1.000	1	999
3b TR2	1.000	1.000	0.284	1.000	0.864	0.274		1	274
3b TR3	0.053	0.179	0.010	0.078	0.032	0.010	0.036		10

5.3.13 ToR 10 Estimation of partial fishing mortalities of cod by area, Member State and fisheries and correlation between partial cod mortality and fishing effort by area, Member State and fisheries

EWG 12-12 interprets this task as largely overlapping with ToRs 8 and 11. The EWG 12-12 analyses and response can be found in chapter 5.3.14.

5.3.14 ToR 11 Comparative analyses between trends in fishing mortality and fishing effort by Member State and fisheries and the cod plan (R (EC) No 1342/2008) provisions, in particular with regard to Article 13

The STECF EWG 12-12 presents partial fishing mortalities and effort by major fisheries and Member States in relation to the estimated fishing mortality by ICES (2012) and the catches (Table 5.3.14.1), landings (Table 5.3.14.2) and discards volumes (Table 5.3.14.3) in relation to the estimated total catch for the year available. The full list of all fisheries can be downloaded from the EWG's web page: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg12. The anticipated trend in fishing mortality as derived from the cod plan is also presented in the following Table 5.3.14.1-3. The sustainable exploitation target is defined as F=0.2 as long as SSB≤70,000t. The trends in fishing effort in units of kWdays at sea of the relevant fisheries are also presented in Table 5.3.14.1-3. The presented parameters r (absolute value of Pearson's coefficient of correlation), numbers of points considered, as a p value to quantify the statistical significance (≤0.05) allow conclusions about the quality of the correlation between the partial F and fisheries specific fishing effort. Those values are presented in the Tables 5.3.14.1-3 and resulting regressions are shown the Fig. 5.3.14.1 for major fisheries.

It can be concluded from the estimated F in 2012 (Table 5.3.14.1) that the stock is subject to overfishing and that the annual F reductions are not following the plan. Discard mortality is generally high but has been reduced significantly since 2010. The fisheries presented do contribute about 50% to the total fishing mortality. The remainder is due to catches of non-EU states, unallocated mortality and differences in the discard raising procedures applied by ICES and STECF EWG 12-12.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for landings of the regulated fisheries and their estimated fishing efforts are highly significant, but insignificant between catches (just above the threshold p≤0.05) and discards. The partial Fs resulting from catches of Danish gill nets, TR2 from Denmark and TR1 from Germany are correlated significantly with fishing effort. The major Scottish and Danish cod fishery using TR1 gears do not display a significant coincidence between their partial F and fishing effort. Overall, this indicates that effective fisheries management by fishing effort in units of kWdays at sea may be possible, also as an auxiliary measure to catch constraints and technical measures. However, management of fishing effort may be difficult at a national level and requires further investigation.

STECF EWG 12-12 notes that there are indications of reductions in partial Fs from catches of the Scottish TR1 and TR2 fisheries in 2011 operating under the provisions of article 13.2.b and c of the cod plan, mainly caused by Fpar reductions in the discards of these particular fisheries. The German and French fisheries operating under the provision of article 13.2.b are either negligible or have reduced their effect in cod fishing mortalities substantially.

The following tables 5.3.14.4-7 list the partial Fs of fisheries using effort regulated gears for haddock 3an4, saithe 3an 4 (6 not included), as well as plaice and sole in 4, respectively. The Figures 5.3.14.2-5 display the respective regressions between partial Fs and the fishing effort deployed for the major fisheries for haddock, saithe, plaice and sole, respectively.

Table 5.3.14.1 Cod. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for catches of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

2008 fixed baseline annual F reductions by 10 percent as F<=0.2 and SSB below Blim											Reference year																							
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012								
F plan												0.63	0.473	0.41	0.347	0.284	Effort plan/ TAC regulations						141839816	116879249	110269253	99129418	88522742							
reduction F plan													-0.25	-0.35	-0.45	-0.55	reduction	not following the provision of Article 12.2 and 4 (base line revisions?)						-0.18	-0.06	-0.10	-0.11							
F estimated							0.901	0.857	0.8	0.723	0.669	0.63	0.602	0.583	0.572		Effort estimated	156186752	148013808	141637376	135704267	125662029	109466902	106559973	97314778	87365310									
reduction F estimated													-0.04	-0.07	-0.09									-0.03	-0.09	-0.10								
												not following the provision of Article 8																							
																	EFFORT																	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p	n				
IIa	3b	COD	BEL	BT1	none	catch	0.0073	0.0172	0.0155	0.0196	0.0069	0.0056	0.0019	0.0022	0.003			1036595	1439951	1509759	1333012	1320169	987634	575501	486680	644908	0.864		0.003	9				
IIa	3b	COD	BEL	BT2	none	catch	0.0105	0.009	0.0102	0.0095	0.0054	0.0102	0.0072	0.0035	0.002			6824266	6717425	5952619	6201205	5891626	6228335	5531728	4368821	3470955	0.902		0.001	9				
IIa	3b	COD	BEL	GN1	none	catch	0.0014	0.0006	0.0004	0.0004	0.0002	0.0003	0.0004	0.0003	0.0001			128220	171233	167853	151507	129532	168969	181261	196692	95383	-0.067		0.864	9				
IIa	3b	COD	BEL	GT1	none	catch	0	0	0	0	0.0001	0.0001	0	0	0			0	0	0	0	42078	34200	12430	41780	46185	0.213		0.731	5				
IIa	3b	COD	BEL	LL1	none	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	1768	0	3047	128	NA		NA	3				
IIa	3b	COD	BEL	TR1	none	catch	0	0.0001	0	0	0.0003	0.0002	0.0003	0.0002	0.0002			0	1989	0	0	161520	201379	220428	220777	129741	0.688		0.131	6				
IIa	3b	COD	BEL	TR2	none	catch	0	0.0014	0.0011	0.0015	0.0013	0.0027	0.0025	0.0013	0.0009			0	546386	354543	390268	312570	441190	553209	638857	600864	0		1	8				
IIa	3b	COD	BEL	TR3	none	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	663	0	3536	0	NA		NA	2				
IIa	3b	COD	DEU	BT1	none	catch	0	0	0	0.0001	0	0.0001	0	0	0			47736	31698	2128	53986	30297	17674	0	884	1535	0.794		0.019	8				
IIa	3b	COD	DEU	BT2	none	catch	0.001	0.0064	0.0011	0.0013	0.0003	0.0004	0.0006	0.0008	0.0003			1669870	2080593	2212397	1927398	1590823	1464163	1666322	1801775	1240530	0.553		0.122	9				
IIa	3b	COD	DEU	GN1	none	catch	0.0019	0.0049	0.0046	0.0028	0.0019	0.0018	0.0024	0.0034	0.0022			191424	163665	273203	236585	152633	281182	235144	276024	225797	0.056		0.887	9				
IIa	3b	COD	DEU	GT1	none	catch	0	0	0	0	0	0	0	0	0			0	0	0	1547	0	0	15444	1188	924	NA		NA	4				
IIa	3b	COD	DEU	TR1	CPart13.2.b	catch	0	0	0	0	0	0	0.0016	0.0015	0.0017			0	0	0	0	0	0	927872	918707	846030	NA		NA	3				
IIa	3b	COD	DEU	TR1	none	catch	0.0275	0.0366	0.0428	0.0492	0.0269	0.0306	0.0246	0.0248	0.0167			1895838	1719696	2166578	2436727	2041064	1774792	891953	912558	805546	0.812		0.008	9				
IIa	3b	COD	DEU	TR2	CPart13.2.b	catch	0	0	0	0	0	0	0	0.0002	0.0001			0	0	0	0	0	0	2420	39820	31020	NA		NA	3				
IIa	3b	COD	DEU	TR2	none	catch	0.0039	0.0046	0.0034	0.0023	0.0012	0.0015	0.002	0.0017	0.0006			1040874	905330	704404	771597	680681	457259	471414	424525	410357	0.82		0.007	9				
IIa	3b	COD	DEU	TR3	none	catch	0	0	0	0	0	0	0	0	0			1028	0	0	772	884	4410	426	0	0	NA		NA	5				
IIa	3b	COD	DNK	BT1	none	catch	0.0015	0.0025	0.0027	0.0019	0.0007	0.0007	0.0003	0.0005	0.0003			1498917	1366044	1316858	788891	856617	449199	413427	569744	433062	0.806		0.009	9				
IIa	3b	COD	DNK	BT2	none	catch	0.0002	0.0002	0.0002	0.0001	0	0.0001	0.0002	0	0			116717	87890	100871	92798	104694	39730	78215	3678	440	0.641		0.063	9				
IIa	3b	COD	DNK	GN1	none	catch	0.0386	0.0587	0.0535	0.046	0.0225	0.023	0.0223	0.0254	0.0193			2556357	2503663	2355996	2086597	1234706	1328785	1475494	1567471	1443100	0.894		0.001	9				
IIa	3b	COD	DNK	GT1	none	catch	0.0018	0.0035	0.003	0.002	0.0005	0.0013	0.0016	0.0014	0.0009			143427	246854	240716	184802	98425	126223	197308	178830	223000	0.717		0.03	9				
IIa	3b	COD	DNK	LL1	none	catch	0.0023	0.0016	0.0012	0.0014	0.0002	0.0003	0.0003	0.0012	0.0006			128989	85345	44687	45289	18078	27772	30722	48293	62587	0.859		0.003	9				
IIa	3b	COD	DNK	TR1	none	catch	0.039	0.0473	0.0614	0.0518	0.0395	0.0472	0.0467	0.0522	0.0337			8054769	7154017	7853341	7402801	5385763	5347921	5120432	4972090	4582610	0.399		0.287	9				
IIa	3b	COD	DNK	TR2	none	catch	0.0349	0.0545	0.0431	0.0462	0.0278	0.0251	0.026	0.0217	0.0124			7650904	8088391	5913518	4689098	3433945	3310190	3394115	3199997	3317731	0.775		0.014	9				
IIa	3b	COD	DNK	TR3	none	catch	0.0008	0.0005	0.0005	0.0005	0	0.0007	0	0	0			3276080	3226366	2586161	1822500	846368	939474	607063	1077111	334898	0.736		0.024	9				
IIa	3b	COD	ENG	BT1	none	catch	0.0004	0.0004	0.0003	0.0007	0.0001	0	0	0	0			1060810	671129	618160	1321240	305837	228530	265710	202684	169873	0.968		0	9				
IIa	3b	COD	ENG	BT2	none	catch	0.0014	0.0024	0.0025	0.0018	0.0011	0.001	0.0009	0.0009	0.0005			3572791	4230884	4470070	3333673	3576089	2343694	2891909	3528678	2942307	0.802		0.009	9				
IIa	3b	COD	ENG	GN1	none	catch	0.0047	0.0063	0.0035	0.0039	0.0014	0.0028	0.0034	0.0024	0.0018			342138	362508	308493	311045	182202	75938	188216	211651	252170	0.678		0.045	9				
IIa	3b	COD	ENG	GT1	none	catch	0	0	0.0001	0.0001	0	0.0001	0.0001	0.0001	0.0001			12387	10306	14525	17181	10999	22498	18440	25367	20026	0.88		0.002	9				
IIa	3b	COD	ENG	LL1	none	catch	0.0004	0.0003	0.0002	0.0003	0.0001	0	0.0001	0.0003	0.0001			147068	115019	182590	95139	53675	45863	42923	57724	44458	0.718		0.03	9				
IIa	3b	COD	ENG	TR1	CPart13	catch	0	0	0	0	0	0	0.0132	0.0141	0.0117			0	0	0	0	0	0	2145727	2110555	2142321	NA		NA	3				
IIa	3b	COD	ENG	TR1	none	catch	0.018	0.0202	0.0125	0.0185	0.0114	0.0147	0	0	0			2375456	1498089	1256186	1824680	1501767	1851664	0	0	0	0.446		0.375	6				
IIa	3b	COD	ENG	TR2	CPart13	catch	0	0	0	0	0	0	0.0049	0.0035	0.0036			0	0	0	0	0	0	1910232	1720025	1620355	NA		NA	3				
IIa	3b	COD	ENG	TR2	none	catch	0.004	0.0043	0.0043	0.0078	0.0031	0.0032	0	0	0			2098696	1976703	2187597	1892451	1769650	1959629	0	0	0	-0.04		0.94	6				
IIa	3b	COD	ENG	TR3	none	catch	0	0	0	0	0	0	0	0	0			2075	7840	3315	6360	1472	492	82	718	621	NA		NA	9				
IIa	3b	COD	FRA	BT2	none	catch	0.0002	0.0002	0.0001	0.0001	0.0002	0.0001	0.0001	0	0			1214607	1372579	994258	1324297	1238613	1194714	1194714	610829	609703	0.86		0.003	9				
IIa	3b	COD	FRA	GN1	none	catch	0.0039	0.0017	0.0014	0.0027	0.0024	0.0013	0.0012	0.0003	0.0003			622444	406304	289076	332356	448038	198741	197488	100810	52988	0.944		0	9				
IIa	3b	COD	FRA	GT1	none	catch	0.0055	0.0024	0.0027	0.0039	0.0034	0.0027	0.0025	0.0018	0.0016			3383987	3426003	4121419	5467522	5292713	3621742	3617988	2431158	2529724	0.452		0.222	9				
IIa	3b	COD	FRA	LL1	none	catch	0.0001	0.0002	0.0001	0.0001	0	0	0	0	0			144804	163370	97311	114742	162573	216282	216282	166766	94156	-0.067		0.864	9				
IIa	3b	COD	FRA	TR1	CPart13.2.b *)	catch	0.0015	0.0012	0.0071	0.0103	0.0042	0.0262	0.018	0.0004	0.0015			3485216	2348974	1961936	2724981	2642190	2787798	2696190	2004742	1841280	0.279		0.468	9				
IIa	3b	COD	FRA	TR2	CPart13.2.b *)	catch	0.0308	0.0209	0.0265	0.0408	0.0588	0.0309	0.0225	0.0219	0.0144			14154807	14841436	13427913	15043571	14787652	12000527	11759062	8070194	7727033	0.618		0.076	9				

Tab. 5.3.14.1 continued.

F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
IIa	3b	COD	FRA	TR3	none	catch	0	0	0	0	0	0	0	0.0001	0			76197	81511	106826	115612	138596	67827	66507	148174	125135	0.535	0.137	9
IIa	3b	COD	GBJ	BT2	none	catch	0	0	0	0	0	0	0	0	0			5180	14375	10346	0	0	0	0	0	0	NA	NA	3
IIa	3b	COD	GBJ	TR2	CPart13	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	7480	0	0	NA	NA	1
IIa	3b	COD	GBJ	TR2	none	catch	0	0	0	0	0	0	0	0	0			27897	20201	24143	10560	13420	9680	0	0	0	-0.409	0.421	6
IIa	3b	COD	IRL	TR1	none	catch	0	0	0	0	0	0	0	0	0			1847	0	0	0	0	0	0	0	0	NA	NA	1
IIa	3b	COD	IRL	TR2	none	catch	0	0	0	0	0	0	0	0	0			54	884	0	0	0	0	0	0	0	NA	NA	2
IIa	3b	COD	NIR	BT1	none	catch	0.0002	0.0002	0	0	0	0	0	0	0			965239	543305	36825	0	0	0	0	0	0	NA	NA	3
IIa	3b	COD	NIR	BT2	none	catch	0	0	0	0	0	0	0	0	0			20350	47517	16785	0	0	0	0	0	0	NA	NA	3
IIa	3b	COD	NIR	TR1	CPart13	catch	0	0	0	0	0	0	0.0001	0	0			0	0	0	0	0	0	56140	29360	33246	NA	NA	3
IIa	3b	COD	NIR	TR1	none	catch	0	0	0.0001	0	0.0001	0.0002	0	0	0			0	16948	70711	51951	61460	49104	0	0	0	0.514	0.376	5
IIa	3b	COD	NIR	TR2	CPart13	catch	0	0	0	0	0	0	0.0013	0.0006	0.0001			0	0	0	0	0	0	385631	398496	273858	NA	NA	3
IIa	3b	COD	NIR	TR2	none	catch	0	0	0.0009	0.0016	0.0018	0.0007	0	0	0			6784	12440	221904	532885	758972	409182	0	0	0	0.948	0.004	6
IIa	3b	COD	NLD	BT1	none	catch	0	0	0	0	0	0	0.0002	0.0003	0.0002			625182	814723	856823	1598963	828513	392987	439835	488309	308958	-0.514	0.156	9
IIa	3b	COD	NLD	BT2	none	catch	0.0346	0.0475	0.0341	0.0323	0.0194	0.029	0.0198	0.0147	0.0096			48469166	45326214	45000599	39370689	38450313	27720830	28729727	28648855	25777844	0.783	0.013	9
IIa	3b	COD	NLD	GN1	none	catch	0	0	0	0	0	0	0.0006	0.0004	0.0002			460895	416025	387945	512022	521697	507733	419797	357091	316070	-0.5	0.17	9
IIa	3b	COD	NLD	GT1	none	catch	0	0	0	0	0	0	0.0006	0.0003	0.0001			0	0	0	0	0	740	26917	37399	21431	NA	NA	4
IIa	3b	COD	NLD	TR1	none	catch	0	0	0	0	0	0	0.0103	0.0098	0.0056			689783	593232	547564	532260	648039	1411644	1323312	1415882	1176692	0.73	0.026	9
IIa	3b	COD	NLD	TR2	none	catch	0	0	0	0	0	0	0.0081	0.0049	0.0032			2089748	1813096	1643732	1512140	1819497	2482280	1937751	1936340	1921901	0.069	0.86	9
IIa	3b	COD	NLD	TR3	none	catch	0	0	0	0	0	0	0	0	0			59360	45942	43261	20649	20589	4038	274	31973	23268	0.067	0.864	9
IIa	3b	COD	SCO	BT1	none	catch	0.0006	0.0009	0.0006	0.0009	0.0004	0	0	0	0			866666	694716	730810	603091	349914	68568	53082	0	0	0.84	0.018	7
IIa	3b	COD	SCO	BT2	none	catch	0.0025	0.0034	0.002	0.0017	0.0007	0.0006	0.0003	0.0001	0			3766255	4610314	4185264	3109683	2800641	1354776	560729	144306	0	0.911	0.002	8
IIa	3b	COD	SCO	GN1	none	catch	0.0002	0.0002	0.0001	0.0001	0	0	0	0	0			196852	197407	165644	293823	320785	417076	376332	440579	607650	-0.751	0.02	9
IIa	3b	COD	SCO	LL1	none	catch	0.0003	0	0	0	0	0	0	0	0			57163	4350	0	7542	1487	276674	620890	301689	156352	-0.23	0.584	8
IIa	3b	COD	SCO	TR1	CPart13.2.b-c	catch	0	0	0	0	0	0	0.1547	0.1326	0.0956			0	0	0	0	0	0	12245575	10444829	9986666	NA	NA	3
IIa	3b	COD	SCO	TR1	none	catch	0.1066	0.1135	0.1097	0.1213	0.1204	0.2008	0	0	0			16080003	12684328	12158294	11661338	11022980	12176291	0	0	0	-0.252	0.63	6
IIa	3b	COD	SCO	TR2	CPart11	catch	0	0	0	0	0	0	0	0.0007	0			0	0	0	0	0	0	0	97359	38429	NA	NA	2
IIa	3b	COD	SCO	TR2	CPart13.2.b-c	catch	0	0	0	0	0	0	0.0133	0.0132	0.0097			0	0	0	0	0	0	8344074	8205442	6768863	NA	NA	3
IIa	3b	COD	SCO	TR2	none	catch	0.0234	0.0198	0.0218	0.023	0.0324	0.0181	0	0	0			10011344	9486074	9108230	8677821	8887263	9195955	0	0	0	-0.29	0.577	6
IIa	3b	COD	SCO	TR3	none	catch	0	0	0	0	0	0	0	0	0			6377	5460	2356	116	11896	0	33117	27524	0	-0.238	0.607	7
IIa	3b	COD	SWE	GN1	none	catch	0.0001	0.0002	0.0003	0.0002	0.0001	0	0.0001	0.0001	0.0001			102519	127286	89748	76409	58618	96877	101209	67326	70682	0.357	0.346	9
IIa	3b	COD	SWE	GT1	none	catch	0.0001	0.0001	0.0001	0	0.0001	0.0001	0.0002	0.0001	0.0002			13801	16206	27824	56771	62309	63022	36250	21260	23899	-0.439	0.237	9
IIa	3b	COD	SWE	LL1	none	catch	0.0001	0.0002	0.0007	0.0022	0.0018	0.002	0.0009	0.0012	0.0008			32305	44221	42904	123481	165019	53381	11352	6600	8580	0.614	0.078	9
IIa	3b	COD	SWE	TR1	none	catch	0.0048	0.0054	0.0073	0.0059	0.0072	0.0346	0.0036	0.0028	0.0022			553332	470803	496754	292520	357841	426261	255594	207882	216991	0.289	0.45	9
IIa	3b	COD	SWE	TR2	none	catch	0.0071	0.0265	0.0133	0.0129	0.0064	0.0051	0.0057	0.0031	0.003			2123156	1955220	1972039	2116735	2055318	2100952	781107	661331	514449	0.487	0.184	9
IIa	3b	COD	SWE	TR3	none	catch	0	0	0	0	0	0	0	0	0			0	3330	1564	588	919	0	0	1986	0	NA	NA	5
Sum							0.4241	0.528	0.497	0.5297	0.4127	0.5261	0.4276	0.373	0.2612			156186752	148013808	141637376	135704267	125662029	109466902	106559973	97314778	87365310	0.635	0.066	9
check sum Fpar/F							0.4707	0.6161	0.6213	0.7326	0.6169	0.8351	0.7103	0.6398	0.4566														

Table 5.3.14.2 Cod. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for landings of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

2008 fixed baseline annual F reductions by 10 percent as F<=0.2 and SSB below Blim											Reference year						Effort kW days running previous year baseline													
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012			
F plan												0.63	0.473	0.41	0.347	0.284	Effort plan/ TAC regulations						141839816	116879249	110269253	99129418	88522742			
reduction F plan													-0.25	-0.35	-0.45	-0.55	reduction	not following the provision of Article 12.2 and 4 (base line revisions?)						-0.18	-0.06	-0.10	-0.11			
F estimated							0.901	0.857	0.8	0.723	0.669	0.63	0.602	0.583	0.572		Effort estimated	156186752	148013808	141637376	135704267	125662029	109466902	106559973	97314778	87365310					
reduction F estimated													-0.04	-0.07	-0.09									-0.03	-0.09	-0.10					
													not following the provision of Article 8																		
																	EFFORT												2003-2011	
F par estimated as F*landings or discards(fishery)/Catch(to							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p	n
IIa	3b	COD	BEL	BT1	none	landings	0.007	0.017	0.016	0.014	0.007	0.003	0.002	0.002	0.003			1036595	1439951	1509759	1333012	1320169	987634	575501	486680	644908	0.888		0.001	9
IIa	3b	COD	BEL	BT2	none	landings	0.011	0.008	0.007	0.007	0.004	0.007	0.006	0.003	0.002			6824266	6717425	5952619	6201205	5891626	6228335	5531728	4368821	3470955	0.886		0.001	9
IIa	3b	COD	BEL	GN1	none	landings	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000			128220	171233	167853	151507	129532	168969	181261	196692	95383	-0.071		0.855	9
IIa	3b	COD	BEL	GT1	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	0	0	0	42078	34200	12430	41780	46185	0.213		0.731	5
IIa	3b	COD	BEL	LL1	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	0	0	0	0	1768	0	3047	128	NA		NA	3
IIa	3b	COD	BEL	TR1	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	1989	0	0	161520	201379	220428	220777	129741	0.495		0.318	6
IIa	3b	COD	BEL	TR2	none	landings	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.001			0	546386	354543	390268	312570	441190	553209	638857	600864	0.484		0.225	8
IIa	3b	COD	BEL	TR3	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	0	0	0	0	663	0	3536	0	NA		NA	2
IIa	3b	COD	DEU	BT1	none	landings	0	0	0	0.0001	0	0	0	0	0			47736	31698	2128	53986	30297	17674	0	884	1535	0.883		0.004	8
IIa	3b	COD	DEU	BT2	none	landings	0.001	0.0009	0.0009	0.0008	0.0003	0.0003	0.0005	0.0007	0.0003			1669870	2080593	2212397	1927398	1590823	1464163	1666322	1801775	1240530	0.796		0.01	9
IIa	3b	COD	DEU	GN1	none	landings	0.0019	0.0049	0.0046	0.0028	0.0019	0.0018	0.0024	0.0032	0.0022			191424	163665	273203	236585	152633	281182	235144	276024	225797	0.036		0.927	9
IIa	3b	COD	DEU	GT1	none	landings	0	0	0	0	0	0	0	0	0			0	0	0	1547	0	0	15444	1188	924	NA		NA	4
IIa	3b	COD	DEU	TR1	CPart13.2.b	landings	0	0	0	0	0	0	0.0011	0.0014	0.0013			0	0	0	0	0	0	927872	918707	846030	NA		NA	3
IIa	3b	COD	DEU	TR1	none	landings	0.0256	0.0331	0.0388	0.0405	0.0205	0.0181	0.021	0.0213	0.0152			1895838	1719696	2166578	2436727	2041064	1774792	891953	912558	805546	0.706		0.034	9
IIa	3b	COD	DEU	TR2	CPart13.2.b	landings	0	0	0	0	0	0	0	0.0001	0			0	0	0	0	0	0	2420	39820	31020	NA		NA	3
IIa	3b	COD	DEU	TR2	none	landings	0.0028	0.0026	0.0022	0.0012	0.0006	0.0006	0.0008	0.0008	0.0004			1040874	905330	704404	771597	680681	457259	471414	424525	410357	0.867		0.002	9
IIa	3b	COD	DEU	TR3	none	landings	0	0	0	0	0	0	0	0	0			1028	0	0	772	884	4410	426	0	0	NA		NA	5
IIa	3b	COD	DNK	BT1	none	landings	0.0015	0.0025	0.0027	0.0016	0.0007	0.0004	0.0003	0.0005	0.0003			1498917	1366044	1316858	788891	856617	449199	413427	569744	433062	0.849		0.004	9
IIa	3b	COD	DNK	BT2	none	landings	0.0002	0.0001	0.0002	0.0001	0	0.0001	0.0002	0	0			116717	87890	100871	92798	104694	39730	78215	3678	440	0.688		0.041	9
IIa	3b	COD	DNK	GN1	none	landings	0.0385	0.0586	0.0533	0.046	0.0225	0.023	0.0223	0.0243	0.0193			2556357	2503663	2355996	2086597	1234706	1328785	1475494	1567471	1443100	0.893		0.001	9
IIa	3b	COD	DNK	GT1	none	landings	0.0018	0.0035	0.003	0.002	0.0005	0.0013	0.0016	0.0014	0.0009			143427	246854	240716	184802	98425	126223	197308	178830	223000	0.717		0.03	9
IIa	3b	COD	DNK	LL1	none	landings	0.0023	0.0016	0.0012	0.0014	0.0002	0.0003	0.0003	0.0012	0.0006			128989	85345	44687	45289	18078	27772	30722	48293	62587	0.859		0.003	9
IIa	3b	COD	DNK	TR1	none	landings	0.0299	0.0346	0.0477	0.0369	0.0237	0.0287	0.0363	0.041	0.0316			8054769	7154017	7853341	7402801	5385763	5347921	5120432	4972090	4582610	0.316		0.407	9
IIa	3b	COD	DNK	TR2	none	landings	0.0222	0.0292	0.0212	0.0191	0.0086	0.0091	0.0101	0.0093	0.0083			7650904	8088391	5913518	4689098	3433945	3310190	3394115	3199997	3317731	0.955		0	9
IIa	3b	COD	DNK	TR3	none	landings	0.0008	0.0005	0.0005	0.0005	0	0.0007	0	0	0			3276080	3226366	2586161	1822500	846368	939474	607063	1077111	334898	0.736		0.024	9
IIa	3b	COD	ENG	BT1	none	landings	0.0004	0.0004	0.0003	0.0007	0.0001	0	0	0	0			1060810	671129	618160	1321240	305837	228530	265710	202684	169873	0.968		0	9
IIa	3b	COD	ENG	BT2	none	landings	0.0014	0.0015	0.0019	0.0017	0.001	0.0007	0.0008	0.0008	0.0005			3572791	4230884	4470070	3333673	3576089	2343694	2891909	3528678	2942307	0.76		0.018	9
IIa	3b	COD	ENG	GN1	none	landings	0.0047	0.0063	0.0035	0.0039	0.0014	0.0028	0.0034	0.0024	0.0018			342138	362508	308493	311045	182202	75938	188216	211651	252170	0.678		0.045	9
IIa	3b	COD	ENG	GT1	none	landings	0	0	0.0001	0.0001	0	0.0001	0.0001	0.0001	0.0001			12387	10306	14525	17181	10999	22498	18440	25367	20026	0.863		0.003	9
IIa	3b	COD	ENG	LL1	none	landings	0.0004	0.0003	0.0002	0.0003	0.0001	0	0.0001	0.0003	0.0001			147068	115019	182590	95139	53675	45863	42923	57724	44458	0.718		0.03	9
IIa	3b	COD	ENG	TR1	CPart13	landings	0	0	0	0	0	0	0.0125	0.0128	0.0111			0	0	0	0	0	0	2145727	2110555	2142321	NA		NA	3
IIa	3b	COD	ENG	TR1	none	landings	0.016	0.0186	0.0112	0.0138	0.0097	0.0101	0	0	0			2375456	1498089	1256186	1824680	1501767	1851664	0	0	0	0.282		0.589	6
IIa	3b	COD	ENG	TR2	CPart13	landings	0	0	0	0	0	0	0.0018	0.0016	0.0011			0	0	0	0	0	0	1910232	1720025	1620355	NA		NA	3
IIa	3b	COD	ENG	TR2	none	landings	0.0032	0.0028	0.003	0.0032	0.002	0.002	0	0	0			2098696	1976703	2187597	1892451	1769650	1959629	0	0	0	0.548		0.26	6
IIa	3b	COD	ENG	TR3	none	landings	0	0	0	0	0	0	0	0	0			2075	7840	3315	6360	1472	492	82	718	621	NA		NA	9
IIa	3b	COD	FRA	BT2	none	landings	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0	0			1214607	1372579	994258	1324297	1238613	1194714	1194714	610829	609703	0.799		0.01	9
IIa	3b	COD	FRA	GN1	none	landings	0.0039	0.0017	0.0014	0.0027	0.0024	0.0013	0.0012	0.0003	0.0003			622444	406304	289076	332356	448038	198741	197488	100810	52988	0.944		0	9
IIa	3b	COD	FRA	GT1	none	landings	0.0055	0.0024	0.0027	0.0039	0.0034	0.0027	0.0025	0.0018	0.0016			3383987	3426003	4121419	5467522	5292713	3621742	3617988	2431158	2529724	0.453		0.221	9
IIa	3b	COD	FRA	LL1	none	landings	0.0001	0.0002	0.0001	0.0001	0	0	0	0	0			144804	163370	97311	114742	162573	216282	216282	166766	94156	-0.067		0.864	9
IIa	3b	COD	FRA	TR1	CPart13.2.b *)	landings	0.0015	0.0012	0.0067	0.0085	0.0025	0.0158	0.0144	0.0004	0.0013			3485216	2348974	1961936	2724981	2642190	2787798	2696190	2004742	1841280	0.254		0.509	9
IIa	3b	COD	FRA	TR2	CPart13.2.b *)	landings	0.0185	0.012	0.013	0.0135	0.0152	0.0131	0.0118	0.009	0.009			14154807	14841436	13427913	15043571	14787652	12000527	11759062	8070194	7727033	0.761		0.017	9

Table 5.3.14.2 continued.

F par estimated as F*landings or discards(fishery)/Catch(t							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
IIa	3b	COD	FRA	TR3	none	landings	0	0	0	0	0	0	0	0.0001	0			76197	81511	106826	115612	138596	67827	66507	148174	125135	0.535	0.137	9
IIa	3b	COD	GBJ	BT2	none	landings	0	0	0	0	0	0	0	0	0			5180	14375	10346	0	0	0	0	0	0	NA	NA	3
IIa	3b	COD	GBJ	TR2	CPart13	landings	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	7480	0	0	NA	NA	1
IIa	3b	COD	GBJ	TR2	none	landings	0	0	0	0	0	0	0	0	0			27897	20201	24143	10560	13420	9680	0	0	0	0.036	0.947	6
IIa	3b	COD	IRL	TR1	none	landings	0	0	0	0	0	0	0	0	0			1847	0	0	0	0	0	0	0	0	NA	NA	1
IIa	3b	COD	IRL	TR2	none	landings	0	0	0	0	0	0	0	0	0			54	884	0	0	0	0	0	0	0	NA	NA	2
IIa	3b	COD	NIR	BT1	none	landings	0.0002	0.0002	0	0	0	0	0	0	0			965239	543305	36825	0	0	0	0	0	0	NA	NA	3
IIa	3b	COD	NIR	BT2	none	landings	0	0	0	0	0	0	0	0	0			20350	47517	16785	0	0	0	0	0	0	NA	NA	3
IIa	3b	COD	NIR	TR1	CPart13	landings	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	56140	29360	33246	NA	NA	3
IIa	3b	COD	NIR	TR1	none	landings	0	0	0.0001	0	0.0001	0.0001	0	0	0			0	16948	70711	51951	61460	49104	0	0	0	0.816	0.092	5
IIa	3b	COD	NIR	TR2	CPart13	landings	0	0	0	0	0	0	0.0004	0.0002	0			0	0	0	0	0	0	385631	398496	273858	NA	NA	3
IIa	3b	COD	NIR	TR2	none	landings	0	0	0.0004	0.0005	0.0004	0.0002	0	0	0			6784	12440	221904	532885	758972	409182	0	0	0	0.778	0.068	6
IIa	3b	COD	NLD	BT1	none	landings	0	0	0	0	0	0	0.0002	0.0003	0.0002			625182	814723	856823	1598963	828513	392987	439835	488309	308958	-0.514	0.156	9
IIa	3b	COD	NLD	BT2	none	landings	0.0346	0.0309	0.0254	0.0278	0.0184	0.0223	0.0167	0.013	0.0089			48469166	45326214	45000599	39370689	38450313	27720830	28729727	28648855	25777844	0.866	0.003	9
IIa	3b	COD	NLD	GN1	none	landings	0	0	0	0	0	0	0.0006	0.0004	0.0002			460895	416025	387945	512022	521697	507733	419797	357091	316070	-0.498	0.172	9
IIa	3b	COD	NLD	GT1	none	landings	0	0	0	0	0	0	0.0006	0.0003	0.0001			0	0	0	0	0	740	26917	37399	21431	NA	NA	4
IIa	3b	COD	NLD	TR1	none	landings	0	0	0	0	0	0	0.0083	0.0077	0.0053			689783	593232	547564	532260	648039	1411644	1323312	1415882	1176692	0.733	0.025	9
IIa	3b	COD	NLD	TR2	none	landings	0	0	0	0	0	0	0.0031	0.0023	0.0019			2089748	1813096	1643732	1512140	1819497	2482280	1937751	1936340	1921901	0.071	0.856	9
IIa	3b	COD	NLD	TR3	none	landings	0	0	0	0	0	0	0	0	0			59360	45942	43261	20649	20589	4038	274	31973	23268	0.067	0.864	9
IIa	3b	COD	SCO	BT1	none	landings	0.0006	0.0009	0.0006	0.0007	0.0004	0	0	0	0			866666	694716	730810	603091	349914	68568	53082	0	0	0.876	0.01	7
IIa	3b	COD	SCO	BT2	none	landings	0.0025	0.0022	0.0015	0.0015	0.0006	0.0005	0.0003	0.0001	0			3766255	4610314	4185264	3109683	2800641	1354776	560729	144306	0	0.891	0.003	8
IIa	3b	COD	SCO	GN1	none	landings	0.0002	0.0002	0.0001	0.0001	0	0	0	0	0			196852	197407	165644	293823	320785	417076	376332	440579	607650	-0.751	0.02	9
IIa	3b	COD	SCO	LL1	none	landings	0.0003	0	0	0	0	0	0	0	0			57163	4350	0	7542	1487	276674	620890	301689	156352	-0.23	0.584	8
IIa	3b	COD	SCO	TR1	CPart13.2.b-c	landings	0	0	0	0	0	0	0.0918	0.1048	0.0842			0	0	0	0	0	0	12245575	10444829	9986666	NA	NA	3
IIa	3b	COD	SCO	TR1	none	landings	0.0973	0.1011	0.0969	0.103	0.0685	0.0738	0	0	0			16080003	12684328	12158294	11661338	11022980	12176291	0	0	0	0.39	0.444	6
IIa	3b	COD	SCO	TR2	CPart11	landings	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	97359	38429	NA	NA	2
IIa	3b	COD	SCO	TR2	CPart13.2.b-c	landings	0	0	0	0	0	0	0.0035	0.0039	0.002			0	0	0	0	0	0	8344074	8205442	6768863	NA	NA	3
IIa	3b	COD	SCO	TR2	none	landings	0.014	0.0138	0.0132	0.0113	0.0071	0.006	0	0	0			10011344	9486074	9108230	8677821	8887263	9195955	0	0	0	0.495	0.318	6
IIa	3b	COD	SCO	TR3	none	landings	0	0	0	0	0	0	0	0	0			6377	5460	2356	116	11896	0	33117	27524	0	-0.238	0.607	7
IIa	3b	COD	SWE	GN1	none	landings	0.0001	0.0002	0.0003	0.0002	0.0001	0	0.0001	0.0001	0.0001			102519	127286	89748	76409	58618	96877	101209	67326	70682	0.357	0.346	9
IIa	3b	COD	SWE	GT1	none	landings	0.0001	0.0001	0.0001	0	0.0001	0.0001	0.0002	0.0001	0.0002			13801	16206	27824	56771	62309	63022	36250	21260	23899	-0.439	0.237	9
IIa	3b	COD	SWE	LL1	none	landings	0.0001	0.0002	0.0007	0.0022	0.0018	0.002	0.0009	0.0012	0.0008			32305	44221	42904	123481	165019	53381	11352	6600	8580	0.614	0.078	9
IIa	3b	COD	SWE	TR1	none	landings	0.0043	0.0044	0.0051	0.0036	0.0039	0.0039	0.0029	0.0022	0.002			553332	470803	496754	292520	357841	426261	255594	207882	216991	0.906	0.001	9
IIa	3b	COD	SWE	TR2	none	landings	0.0057	0.0066	0.0049	0.004	0.0022	0.0022	0.0028	0.002	0.0022			2123156	1955220	1972039	2116735	2055318	2100952	781107	661331	514449	0.524	0.147	9
IIa	3b	COD	SWE	TR3	none	landings	0	0	0	0	0	0	0	0	0			0	3330	1564	588	919	0	0	1986	0	NA	NA	5
Sum							0.3635	0.4067	0.3937	0.383	0.2329	0.2554	0.2875	0.2794	0.2212			156186752	148013808	141637376	135704267	125662029	109466902	106559973	97314778	87365310	0.821	0.007	9

Table 5.3.14.3 Cod. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for discards of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

2008 fixed baseline annual F reductions by 10 percent as F<=0.2 and SSB below Blim											Reference year						Effort kW days running previous year baseline													
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012			
F plan												0.63	0.473	0.41	0.347	0.284	Effort plan/ TAC regulations						141839816	116879249	110269253	99129418	88522742			
reduction F plan													-0.25	-0.35	-0.45	-0.55	reduction	not following the provision of Article 12.2 and 4 (base line revisions?)						-0.18	-0.06	-0.10	-0.11			
F estimated							0.901	0.857	0.8	0.723	0.669	0.63	0.602	0.583	0.572		Effort estimatec	156186752	148013808	141637376	135704267	125662029	109466902	106559973	97314778	87365310				
reduction F estimated													-0.04	-0.07	-0.09									-0.03	-0.09	-0.1				
													not following the provision of Article 8																	
																	EFFORT												2003-2011	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p	n
IIa	3b	COD	BEL	BT1	none	discards	0.000	0.000	0.000	0.005	0.000	0.002	0.000	0.000	0.000			1036595	1439951	1509759	1333012	1320169	987634	575501	486680	644908	0.254		0.510	9
IIa	3b	COD	BEL	BT2	none	discards	0.000	0.001	0.003	0.002	0.001	0.004	0.001	0.001	0.000			6824266	6717425	5952619	6201205	5891626	6228335	5531728	4368821	3470955	0.392		0.297	9
IIa	3b	COD	BEL	GN1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			128220	171233	167853	151507	129532	168969	181261	196692	95383	0.501		0.170	9
IIa	3b	COD	BEL	GT1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	0	0	0	42078	34200	12430	41780	46185	NA		NA	5
IIa	3b	COD	BEL	LL1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	0	0	0	0	1768	0	3047	128	NA		NA	3
IIa	3b	COD	BEL	TR1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	1989	0	0	161520	201379	220428	220777	129741	0.381		0.456	6
IIa	3b	COD	BEL	TR2	none	discards	0.000	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.000			0	546386	354543	390268	312570	441190	553209	638857	600864	-0.149		0.725	8
IIa	3b	COD	BEL	TR3	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	0	0	0	0	663	0	3536	0	NA		NA	2
IIa	3b	COD	DEU	BT1	none	discards	0	0	0	0	0	0	0	0	0			47736	31698	2128	53986	30297	17674	0	884	1535	0.462		0.250	8
IIa	3b	COD	DEU	BT2	none	discards	0	0.0055	0.0002	0.0005	0	0	0.0001	0.0001	0			1669870	2080593	2212397	1927398	1590823	1464163	1666322	1801775	1240530	0.465		0.207	9
IIa	3b	COD	DEU	GN1	none	discards	0	0	0	0	0	0	0	0.0002	0			191424	163665	273203	236585	152633	281182	235144	276024	225797	0.429		0.249	9
IIa	3b	COD	DEU	GT1	none	discards	0	0	0	0	0	0	0	0	0			0	0	0	1547	0	0	15444	1188	924	NA		NA	4
IIa	3b	COD	DEU	TR1	CPart13.2.b	discards	0	0	0	0	0	0	0.0004	0	0.0004			0	0	0	0	0	0	927872	918707	846030	NA		NA	3
IIa	3b	COD	DEU	TR1	none	discards	0.0019	0.0035	0.004	0.0087	0.0064	0.0125	0.0036	0.0035	0.0015			1895838	1719696	2166578	2436727	2041064	1774792	891953	912558	805546	0.471		0.2	9
IIa	3b	COD	DEU	TR2	CPart13.2.b	discards	0	0	0	0	0	0	0	0.0001	0.0001			0	0	0	0	0	0	2420	39820	31020	NA		NA	3
IIa	3b	COD	DEU	TR2	none	discards	0.0011	0.0019	0.0012	0.0011	0.0006	0.0009	0.0012	0.0008	0.0002			1040874	905330	704404	771597	680681	457259	471414	424525	410357	0.552		0.124	9
IIa	3b	COD	DEU	TR3	none	discards	0	0	0	0	0	0	0	0	0			1028	0	0	772	884	4410	426	0	0	NA		NA	5
IIa	3b	COD	DNK	BT1	none	discards	0.0000	0.0000	0.0000	0.0004	0.0000	0.0002	0.0000	0.0000	0.0000			1498917	1366044	1316858	788891	856617	449199	413427	569744	433062	-0.244		0.526	9
IIa	3b	COD	DNK	BT2	none	discards	0.0000	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			116717	87890	100871	92798	104694	39730	78215	3678	440	0.220		0.570	9
IIa	3b	COD	DNK	GN1	none	discards	0	0.0001	0.0002	0	0	0	0	0.0011	0			2556357	2503663	2355996	2086597	1234706	1328785	1475494	1567471	1443100	-0.1		0.798	9
IIa	3b	COD	DNK	GT1	none	discards	0	0	0	0	0	0	0	0	0			143427	246854	240716	184802	98425	126223	197308	178830	223000	NA		NA	9
IIa	3b	COD	DNK	LL1	none	discards	0	0	0	0	0	0	0	0	0			128989	85345	44687	45289	18078	27772	30722	48293	62587	NA		NA	9
IIa	3b	COD	DNK	TR1	none	discards	0.0092	0.0127	0.0137	0.015	0.0158	0.0185	0.0104	0.0112	0.0021			8054769	7154017	7853341	7402801	5385763	5347921	5120432	4972090	4582610	0.226		0.558	9
IIa	3b	COD	DNK	TR2	none	discards	0.0127	0.0252	0.0219	0.0271	0.0193	0.016	0.0159	0.0124	0.0041			7650904	8088391	5913518	4689098	3433945	3310190	3394115	3199997	3317731	0.407		0.277	9
IIa	3b	COD	DNK	TR3	none	discards	0	0	0	0	0	0	0	0	0			3276080	3226366	2586161	1822500	846368	939474	607063	1077111	334898	NA		NA	9
IIa	3b	COD	ENG	BT1	none	discards	0	0	0	0	0	0	0	0	0			1060810	671129	618160	1321240	305837	228530	265710	202684	169873	NA		NA	9
IIa	3b	COD	ENG	BT2	none	discards	0	0.001	0.0005	0.0001	0.0001	0.0002	0.0001	0.0001	0			3572791	4230884	4470070	3333673	3576089	2343694	2891909	3528678	2942307	0.597		0.09	9
IIa	3b	COD	ENG	GN1	none	discards	0	0	0	0	0	0	0	0	0			342138	362508	308493	311045	182202	75938	188216	211651	252170	-0.148		0.703	9
IIa	3b	COD	ENG	GT1	none	discards	0	0	0	0	0	0	0	0	0			12387	10306	14525	17181	10999	22498	18440	25367	20026	0.227		0.557	9
IIa	3b	COD	ENG	LL1	none	discards	0	0	0	0	0	0	0	0	0			147068	115019	182590	95139	53675	45863	42923	57724	44458	NA		NA	9
IIa	3b	COD	ENG	TR1	CPart13	discards	0	0	0	0	0	0	0.0007	0.0013	0.0006			0	0	0	0	0	0	2145727	2110555	2142321	NA		NA	3
IIa	3b	COD	ENG	TR1	none	discards	0.002	0.0016	0.0013	0.0047	0.0017	0.0047	0	0	0			2375456	1498089	1256186	1824680	1501767	1851664	0	0	0	0.366		0.476	6
IIa	3b	COD	ENG	TR2	CPart13	discards	0	0	0	0	0	0	0.0031	0.002	0.0025			0	0	0	0	0	0	1910232	1720025	1620355	NA		NA	3
IIa	3b	COD	ENG	TR2	none	discards	0.0009	0.0015	0.0013	0.0046	0.001	0.0012	0	0	0			2098696	1976703	2187597	1892451	1769650	1959629	0	0	0	-0.267		0.61	6
IIa	3b	COD	ENG	TR3	none	discards	0	0	0	0	0	0	0	0	0			2075	7840	3315	6360	1472	492	82	718	621	NA		NA	9
IIa	3b	COD	FRA	BT2	none	discards	0	0.0001	0	0	0	0	0	0	0			1214607	1372579	994258	1324297	1238613	1194714	1194714	610829	609703	0.509		0.161	9
IIa	3b	COD	FRA	GN1	none	discards	0	0	0	0	0	0	0	0	0			622444	406304	289076	332356	448038	198741	197488	100810	52988	-0.403		0.282	9
IIa	3b	COD	FRA	GT1	none	discards	0	0	0	0	0	0	0	0	0			3383987	3426003	4121419	5467522	5292713	3621742	3617988	2431158	2529724	-0.473		0.199	9
IIa	3b	COD	FRA	LL1	none	discards	0	0	0	0	0	0	0	0	0			144804	163370	97311	114742	162573	216282	216282	166766	94156	NA		NA	9
IIa	3b	COD	FRA	TR1	CPart13.2.b *)	discards	0.0001	0.0001	0.0005	0.0018	0.0017	0.0103	0.0036	0	0.0001			3485216	2348974	1961936	2724981	2642190	2787798	2696190	2004742	1841280	0.292		0.446	9
IIa	3b	COD	FRA	TR2	CPart13.2.b *)	discards	0.0123	0.0089	0.0135	0.0273	0.0435	0.0178	0.0106	0.0129	0.0054			14154807	14841436	13427913	15043571	14787652	12000527	11759062	8070194	7727033	0.507		0.164	9

Table 5.3.14.3 continued.

F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011
IIa	3b	COD	FRA	TR3	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	GBJ	BT2	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	GBJ	TR2	CPart13	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	GBJ	TR2	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	IRL	TR1	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	IRL	TR2	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	NIR	BT1	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	NIR	BT2	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	NIR	TR1	CPart13	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	NIR	TR1	none	discards	0	0	0	0	0	0.0001	0	0	0
IIa	3b	COD	NIR	TR2	CPart13	discards	0	0	0	0	0	0	0.0009	0.0004	0.0001
IIa	3b	COD	NIR	TR2	none	discards	0	0	0.0005	0.0011	0.0014	0.0005	0	0	0
IIa	3b	COD	NLD	BT1	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	NLD	BT2	none	discards	0	0.0165	0.0087	0.0045	0.001	0.0068	0.0031	0.0017	0.0007
IIa	3b	COD	NLD	GN1	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	NLD	GT1	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	NLD	TR1	none	discards	0	0	0	0	0	0	0.0021	0.002	0.0003
IIa	3b	COD	NLD	TR2	none	discards	0	0	0	0	0	0	0.005	0.0026	0.0013
IIa	3b	COD	NLD	TR3	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	SCO	BT1	none	discards	0	0	0	0.0002	0	0	0	0	0
IIa	3b	COD	SCO	BT2	none	discards	0	0.0012	0.0005	0.0002	0	0.0002	0	0	0
IIa	3b	COD	SCO	GN1	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	SCO	LL1	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	SCO	TR1	CPart13.2.b-c	discards	0	0	0	0	0	0	0.0629	0.0278	0.0114
IIa	3b	COD	SCO	TR1	none	discards	0.0093	0.0124	0.0128	0.0184	0.0519	0.1269	0	0	0
IIa	3b	COD	SCO	TR2	CPart11	discards	0	0	0	0	0	0	0	0.0006	0
IIa	3b	COD	SCO	TR2	CPart13.2.b-c	discards	0	0	0	0	0	0	0.0098	0.0092	0.0077
IIa	3b	COD	SCO	TR2	none	discards	0.0094	0.006	0.0086	0.0117	0.0253	0.0121	0	0	0
IIa	3b	COD	SCO	TR3	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	SWE	GN1	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	SWE	GT1	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	SWE	LL1	none	discards	0	0	0	0	0	0	0	0	0
IIa	3b	COD	SWE	TR1	none	discards	0.0006	0.001	0.0022	0.0023	0.0034	0.0307	0.0007	0.0006	0.0002
IIa	3b	COD	SWE	TR2	none	discards	0.0014	0.02	0.0084	0.0089	0.0042	0.0029	0.0028	0.0011	0.0007
IIa	3b	COD	SWE	TR3	none	discards	0	0	0	0	0	0	0	0	0
Sum							0.0609	0.1213	0.1034	0.1469	0.1797	0.2703	0.1398	0.0931	0.0398
check sum Fpar/F							0.0676	0.1415	0.1293	0.2032	0.2686	0.429	0.2322	0.1597	0.0696

kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
	76197	81511	106826	115612	138596	67827	66507	148174	125135	NA	NA	9
	5180	14375	10346	0	0	0	0	0	0	NA	NA	3
	0	0	0	0	0	0	7480	0	0	NA	NA	1
	27897	20201	24143	10560	13420	9680	0	0	0	-0.592	0.216	6
	1847	0	0	0	0	0	0	0	0	NA	NA	1
	54	884	0	0	0	0	0	0	0	NA	NA	2
	965239	543305	36825	0	0	0	0	0	0	NA	NA	3
	20350	47517	16785	0	0	0	0	0	0	NA	NA	3
	0	0	0	0	0	0	56140	29360	33246	NA	NA	3
	0	16948	70711	51951	61460	49104	0	0	0	0.014	0.982	5
	0	0	0	0	0	0	385631	398496	273858	NA	NA	3
	6784	12440	221904	532885	758972	409182	0	0	0	0.974	0.001	6
	625182	814723	856823	1598963	828513	392987	439835	488309	308958	NA	NA	9
	48469166	45326214	45000599	39370689	38450313	27720830	28729727	28648855	25777844	0.363	0.337	9
	460895	416025	387945	512022	521697	507733	419797	357091	316070	-0.392	0.296	9
	0	0	0	0	0	740	26917	37399	21431	NA	NA	4
	689783	593232	547564	532260	648039	1411644	1323312	1415882	1176692	0.676	0.045	9
	2089748	1813096	1643732	1512140	1819497	2482280	1937751	1936340	1921901	0.066	0.866	9
	59360	45942	43261	20649	20589	4038	274	31973	23268	NA	NA	9
	866666	694716	730810	603091	349914	68568	53082	0	0	0.165	0.724	7
	3766255	4610314	4185264	3109683	2800641	1354776	560729	144306	0	0.641	0.087	8
	196852	197407	165644	293823	320785	417076	376332	440579	607650	NA	NA	9
	57163	4350	0	7542	1487	276674	620890	301689	156352	NA	NA	8
	0	0	0	0	0	0	12245575	10444829	9986666	NA	NA	3
	16080003	12684328	12158294	11661338	11022980	12176291	0	0	0	-0.322	0.533	6
	0	0	0	0	0	0	0	97359	38429	NA	NA	2
	0	0	0	0	0	0	8344074	8205442	6768863	NA	NA	3
	10011344	9486074	9108230	8677821	8887263	9195955	0	0	0	-0.471	0.346	6
	6377	5460	2356	116	11896	0	33117	27524	0	NA	NA	7
	102519	127286	89748	76409	58618	96877	101209	67326	70682	NA	NA	9
	13801	16206	27824	56771	62309	63022	36250	21260	23899	NA	NA	9
	32305	44221	42904	123481	165019	53381	11352	6600	8580	NA	NA	9
	553332	470803	496754	292520	357841	426261	255594	207882	216991	0.202	0.602	9
	2123156	1955220	1972039	2116735	2055318	2100952	781107	661331	514449	0.444	0.231	9
	0	3330	1564	588	919	0	0	1986	0	NA	NA	5
	156186752	148013808	141637376	135704267	125662029	109466902	106559973	97314778	87365310	0.042	0.915	9

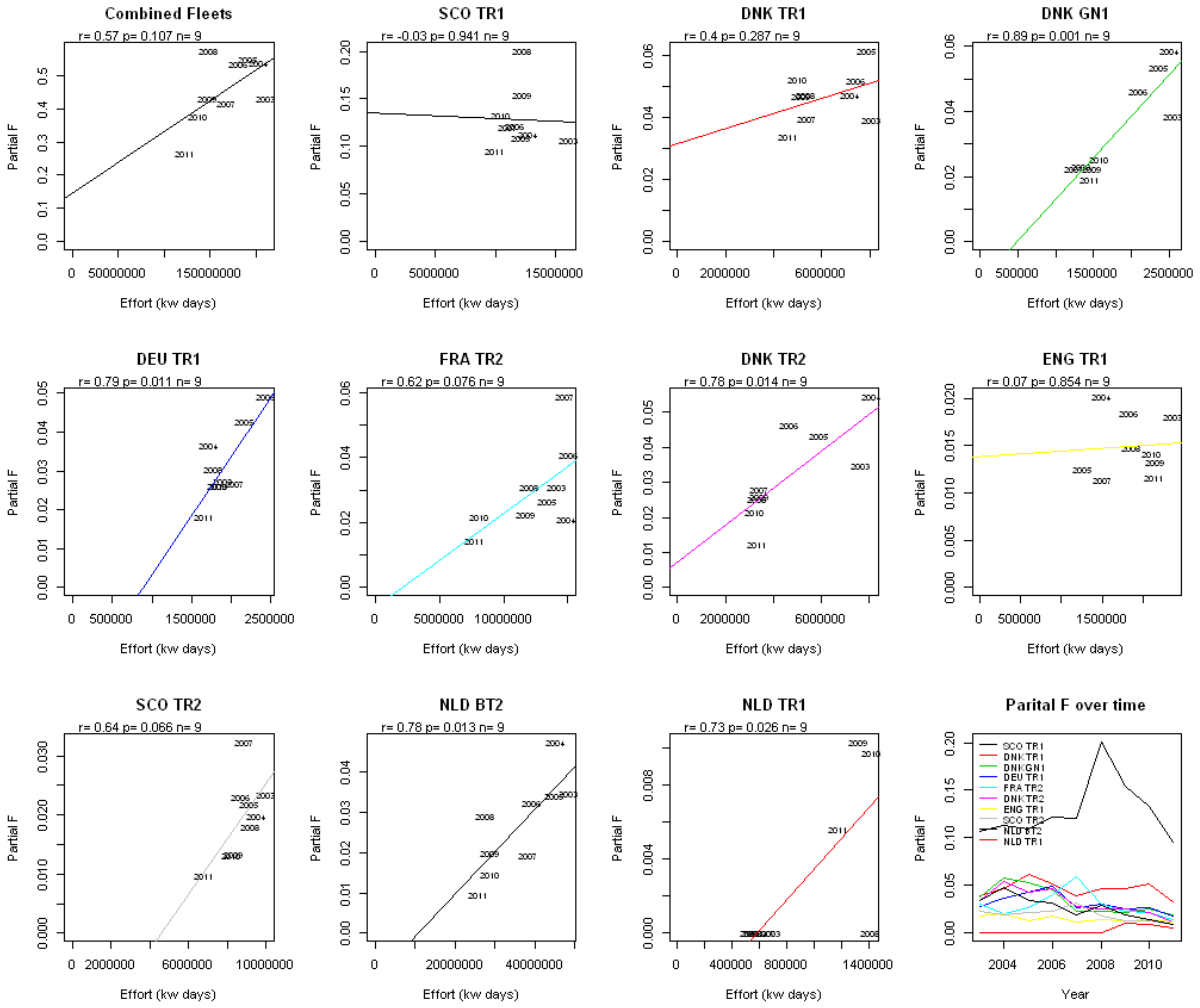


Fig. 5.3.14.1 Cod. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) in area 3b of major fisheries, 2003-2011. R = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated fisheries and that the trends of the fisheries are not separated by special conditions.

Table 5.3.14.4 Haddock. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 haddock assessment, as well as partial Fs for catches of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

F <=Fmsy=0.3												Reference year															
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		
F plan																	Effort plan/ TAC regulations												
reduction F plan																	reduction												
F estimated							0.201	0.263	0.31	0.511	0.398	0.227	0.209	0.233	0.298		Effort estimated	154883860	146575086	140575714	134346442	124346445	108216689	105302288	96487667	86625242			
reduction F estimated													-0.08	0.11	0.28									-0.03	-0.08	-0.1			
																	EFFORT											2003-2011	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
IIa	3b	HAD	BEL	BT1	none	catch	0.0007	0.001	0.0006	0.0007	0.0007	0.0003	0.0002	0.0002	0.0003			1036595	1439951	1509759	1333012	1320169	987634	575501	486680	644908	0.852	0.004	9
IIa	3b	HAD	BEL	BT2	none	catch	0.0003	0.0003	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0004			6824266	6717425	5952619	6201205	5891626	6228335	5531728	4368821	3470955	-0.249	0.519	9
IIa	3b	HAD	BEL	GN1	none	catch	0	0	0	0	0	0	0	0	0			128220	171233	167853	151507	129532	168969	181261	196692	95383	NA	NA	9
IIa	3b	HAD	BEL	TR1	none	catch	0	0	0	0	0.0002	0	0.0002	0	0			0	1989	0	0	161520	201379	220428	220777	129741	0.472	0.344	6
IIa	3b	HAD	BEL	TR2	none	catch	0	0	0	0	0.0001	0.0001	0	0	0			0	546386	354543	390268	312570	441190	553209	638857	600864	-0.397	0.33	8
IIa	3b	HAD	DEU	BT1	none	catch	0	0	0	0	0	0	0	0	0			47736	31698	2128	53986	30297	17674	0	884	1535	0.279	0.503	8
IIa	3b	HAD	DEU	BT2	none	catch	0	0	0	0	0	0	0	0	0			1669870	2080593	2212397	1927398	1590823	1464163	1666322	1801775	1240530	0.099	0.799	9
IIa	3b	HAD	DEU	GN1	none	catch	0	0	0	0	0	0	0	0.0001	0.0001			191424	163665	273203	236585	152633	281182	235144	276024	225797	0.33	0.385	9
IIa	3b	HAD	DEU	TR1	CPart13.2.b	catch	0	0	0	0	0	0	0.0004	0.0005	0.0008			0	0	0	0	0	0	927872	918707	846030	NA	NA	3
IIa	3b	HAD	DEU	TR1	none	catch	0.006	0.0059	0.0047	0.0107	0.0117	0.0028	0.0038	0.0038	0.0043			1895838	1719696	2166578	2436727	2041064	1774792	891953	912558	805546	0.623	0.073	9
IIa	3b	HAD	DEU	TR2	CPart13.2.b	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	2420	39820	31020	NA	NA	3
IIa	3b	HAD	DEU	TR2	none	catch	0.0005	0.0002	0.0001	0.0003	0.0001	0	0	0	0			1040874	905330	704404	771597	680681	457259	471414	424525	410357	0.898	0.001	9
IIa	3b	HAD	DNK	BT1	none	catch	0.0002	0.0001	0.0001	0	0	0	0	0	0			1498917	1366044	1316858	788891	856617	449199	413427	569744	433062	0.896	0.001	9
IIa	3b	HAD	DNK	BT2	none	catch	0	0	0	0	0	0	0	0	0			116717	87890	100871	92798	104694	39730	78215	3678	440	0.316	0.408	9
IIa	3b	HAD	DNK	GN1	none	catch	0.0009	0.0006	0.0005	0.0007	0.0004	0.0002	0.0002	0.0003	0.0003			2556357	2503663	2355996	2086597	1234706	1328785	1475494	1567471	1443100	0.868	0.002	9
IIa	3b	HAD	DNK	GT1	none	catch	0	0	0	0	0	0	0	0	0			143427	246854	240716	184802	98425	126223	197308	178830	223000	0.619	0.076	9
IIa	3b	HAD	DNK	LL1	none	catch	0.0001	0	0.0001	0.0003	0	0	0	0.0002	0.0001			128989	85345	44687	45289	18078	27772	30722	48293	62587	0.284	0.459	9
IIa	3b	HAD	DNK	TR1	none	catch	0.0109	0.0114	0.0101	0.0135	0.0096	0.0058	0.0065	0.0092	0.0116			8054769	7154017	7853341	7402801	5385763	5347921	5120432	4972090	4582610	0.498	0.172	9
IIa	3b	HAD	DNK	TR2	none	catch	0.0051	0.0057	0.0032	0.01	0.0072	0.0051	0.0041	0.0033	0.0043			7650904	8088391	5913518	4689098	3433945	3310190	3394115	3199997	3317731	0.055	0.889	9
IIa	3b	HAD	DNK	TR3	none	catch	0.0006	0.0004	0.0003	0.0026	0	0.0006	0	0	0			3276080	3226366	2586161	1822500	846368	939474	607063	1077111	334898	0.262	0.496	9
IIa	3b	HAD	ENG	BT1	none	catch	0	0	0	0	0	0	0	0	0			1060810	671129	618160	1321240	305837	228530	265710	202684	169873	0.678	0.045	9
IIa	3b	HAD	ENG	BT2	none	catch	0.0001	0.0001	0.0001	0	0	0	0	0	0			3572791	4230884	4470070	3333673	3576089	2343694	2891909	3528678	2942307	0.676	0.045	9
IIa	3b	HAD	ENG	GN1	none	catch	0	0	0	0	0	0	0	0	0			342138	362508	308493	311045	182202	75938	188216	211651	252170	0.016	0.968	9
IIa	3b	HAD	ENG	GT1	none	catch	0	0	0	0	0	0	0	0	0			12387	10306	14525	17181	10999	22498	18440	25367	20026	NA	NA	9
IIa	3b	HAD	ENG	LL1	none	catch	0	0	0.0001	0.0002	0	0	0	0	0			147068	115019	182590	95139	53675	45863	42923	57724	44458	0.336	0.377	9
IIa	3b	HAD	ENG	TR1	CPart13	catch	0	0	0	0	0	0	0.0064	0.0097	0.0108			0	0	0	0	0	0	2145727	2110555	2142321	NA	NA	3
IIa	3b	HAD	ENG	TR1	none	catch	0.0048	0.0044	0.0033	0.0031	0.0075	0.007	0	0	0			2375456	1498089	1256186	1824680	1501767	1851664	0	0	0	0.081	0.878	6
IIa	3b	HAD	ENG	TR2	CPart13	catch	0	0	0	0	0	0	0.0022	0.0024	0.0037			0	0	0	0	0	0	1910232	1720025	1620355	NA	NA	3
IIa	3b	HAD	ENG	TR2	none	catch	0.0018	0.0018	0.0014	0.0031	0.003	0.002	0	0	0			2098696	1976703	2187597	1892451	1769650	1959629	0	0	0	-0.872	0.024	6
IIa	3b	HAD	ENG	TR3	none	catch	0	0	0	0	0	0	0	0	0			2075	7840	3315	6360	1472	492	82	718	621	NA	NA	9
IIa	3b	HAD	FRA	GN1	none	catch	0	0	0	0	0	0	0	0	0			622444	406304	289076	332356	448038	198741	197488	100810	52988	NA	NA	9
IIa	3b	HAD	FRA	GT1	none	catch	0	0	0	0	0	0	0	0	0			3383987	3426003	4121419	5467522	5292713	3621742	3617988	2431158	2529724	-0.686	0.041	9
IIa	3b	HAD	FRA	LL1	none	catch	0	0	0	0	0	0	0	0	0			144804	163370	97311	114742	162573	216282	216282	166766	94156	NA	NA	9
IIa	3b	HAD	FRA	TR1	CPart13.2.b *)	catch	0.0049	0.0029	0.0027	0.007	0.0042	0.0037	0.0029	0.0005	0.0005			3485216	2348974	1961936	2724981	2642190	2787798	2696190	2004742	1841280	0.729	0.026	9
IIa	3b	HAD	FRA	TR2	CPart13.2.b *)	catch	0.0001	0	0.0001	0.0002	0.0117	0.0017	0.0004	0.0018	0.0133			14154807	14841436	13427913	15043571	14787652	12000527	11759062	8070194	7727033	-0.355	0.349	9
IIa	3b	HAD	FRA	TR3	none	catch	0	0	0	0	0	0	0	0	0			76197	81511	106826	115612	138596	67827	66507	148174	125135	0.546	0.128	9
IIa	3b	HAD	GBJ	BT2	none	catch	0	0	0	0	0	0	0	0	0			5180	14375	10346	0	0	0	0	0	0	NA	NA	3
IIa	3b	HAD	IRL	TR1	none	catch	0	0	0	0	0	0	0	0	0			1847	0	0	0	0	0	0	0	0	NA	NA	1
IIa	3b	HAD	IRL	TR2	none	catch	0	0	0	0	0	0	0	0	0			54	884	0	0	0	0	0	0	0	NA	NA	2
IIa	3b	HAD	NIR	BT1	none	catch	0	0	0	0	0	0	0	0	0			965239	543305	36825	0	0	0	0	0	0	NA	NA	3
IIa	3b	HAD	NIR	BT2	none	catch	0	0	0	0	0	0	0	0	0			20350	47517	16785	0	0	0	0	0	0	NA	NA	3

Table 5.3.14.4 continued.

F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011
IIa	3b	HAD	NIR	TR1	CPart13	catch	0	0	0	0	0	0	0.0028	0.0026	0.0024
IIa	3b	HAD	NIR	TR1	none	catch	0	0.0004	0.0025	0.0019	0.0029	0.0021	0	0	0
IIa	3b	HAD	NIR	TR2	CPart13	catch	0	0	0	0	0	0	0.0012	0.0016	0.0013
IIa	3b	HAD	NIR	TR2	none	catch	0	0	0.0003	0.0018	0.0026	0.001	0	0	0
IIa	3b	HAD	NLD	BT1	none	catch	0	0	0	0	0	0	0	0	0
IIa	3b	HAD	NLD	BT2	none	catch	0	0	0	0	0	0	0	0	0
IIa	3b	HAD	NLD	GN1	none	catch	0	0	0	0	0	0	0	0	0
IIa	3b	HAD	NLD	TR1	none	catch	0	0	0	0	0	0	0.0001	0.0002	0.0004
IIa	3b	HAD	NLD	TR2	none	catch	0	0	0	0	0	0	0	0.0001	0
IIa	3b	HAD	SCO	BT1	none	catch	0.0001	0.0001	0	0	0	0	0	0	0
IIa	3b	HAD	SCO	BT2	none	catch	0.0001	0.0001	0.0001	0	0	0	0	0	0
IIa	3b	HAD	SCO	GN1	none	catch	0	0	0	0	0	0	0	0	0
IIa	3b	HAD	SCO	LL1	none	catch	0	0	0	0	0	0	0	0	0
IIa	3b	HAD	SCO	TR1	CPart13.2.b-c	catch	0	0	0	0	0	0	0.1288	0.1349	0.1373
IIa	3b	HAD	SCO	TR1	none	catch	0.1325	0.1774	0.2206	0.3169	0.2477	0.1516	0	0	0
IIa	3b	HAD	SCO	TR2	CPart13.2.b-c	catch	0	0	0	0	0	0	0.039	0.0415	0.0419
IIa	3b	HAD	SCO	TR2	none	catch	0.0252	0.0264	0.0354	0.1002	0.0885	0.0409	0	0	0
IIa	3b	HAD	SCO	TR3	none	catch	0	0	0	0	0	0	0	0	0
IIa	3b	HAD	SWE	GN1	none	catch	0	0	0	0	0	0	0	0	0
IIa	3b	HAD	SWE	GT1	none	catch	0	0	0	0	0	0	0	0	0
IIa	3b	HAD	SWE	LL1	none	catch	0	0	0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
IIa	3b	HAD	SWE	TR1	none	catch	0.0023	0.0011	0.001	0.002	0.002	0.0007	0.0007	0.0006	0.0011
IIa	3b	HAD	SWE	TR2	none	catch	0.0005	0.0005	0.0006	0.0013	0.0015	0.0012	0.0011	0.0014	0.0009
IIa	3b	HAD	SWE	TR3	none	catch	0	0	0	0	0	0	0	0	0
Sum							0.1977	0.2408	0.2881	0.4767	0.4018	0.227	0.2012	0.2151	0.2359
check sum Fpar/F							0.9836	0.9156	0.9294	0.9329	1.0095	1	0.9627	0.9232	0.7916

kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
	0	0	0	0	0	0	56140	29360	33246	NA	NA	3
	0	16948	70711	51951	61460	49104	0	0	0	0.945	0.016	5
	0	0	0	0	0	0	385631	398496	273858	NA	NA	3
	6784	12440	221904	532885	758972	409182	0	0	0	0.98	0.001	6
	625182	814723	856823	1598963	828513	392987	439835	488309	308958	NA	NA	9
	48469166	45326214	45000599	39370689	38450313	27720830	28729727	28648855	25777844	-0.452	0.222	9
	460895	416025	387945	512022	521697	507733	419797	357091	316070	NA	NA	9
	689783	593232	547564	532260	648039	1411644	1323312	1415882	1176692	0.552	0.123	9
	2089748	1813096	1643732	1512140	1819497	2482280	1937751	1936340	1921901	0.049	0.901	9
	866666	694716	730810	603091	349914	68568	53082	0	0	0.59	0.163	7
	3766255	4610314	4185264	3109683	2800641	1354776	560729	144306	0	0.846	0.008	8
	196852	197407	165644	293823	320785	417076	376332	440579	607650	-0.109	0.781	9
	57163	4350	0	7542	1487	276674	620890	301689	156352	-0.227	0.59	8
	0	0	0	0	0	0	12245575	10444829	9986666	NA	NA	3
	16080003	12684328	12158294	11661338	11022980	12176291	0	0	0	-0.676	0.14	6
	0	0	0	0	0	0	8344074	8205442	6768863	NA	NA	3
	10011344	9486074	9108230	8677821	8887263	9195955	0	0	0	-0.826	0.043	6
	6377	5460	2356	116	11896	0	33117	27524	0	-0.281	0.541	7
	102519	127286	89748	76409	58618	96877	101209	67326	70682	0.255	0.509	9
	13801	16206	27824	56771	62309	63022	36250	21260	23899	NA	NA	9
	32305	44221	42904	123481	165019	53381	11352	6600	8580	-0.014	0.972	9
	553332	470803	496754	292520	357841	426261	255594	207882	216991	0.367	0.331	9
	2123156	1955220	1972039	2116735	2055318	2100952	781107	661331	514449	-0.143	0.713	9
	0	3330	1564	588	919	0	0	1986	0	NA	NA	5
	154883860	146575086	140575714	134346442	124346445	108216689	105302288	96487667	86625242	0.238	0.538	9

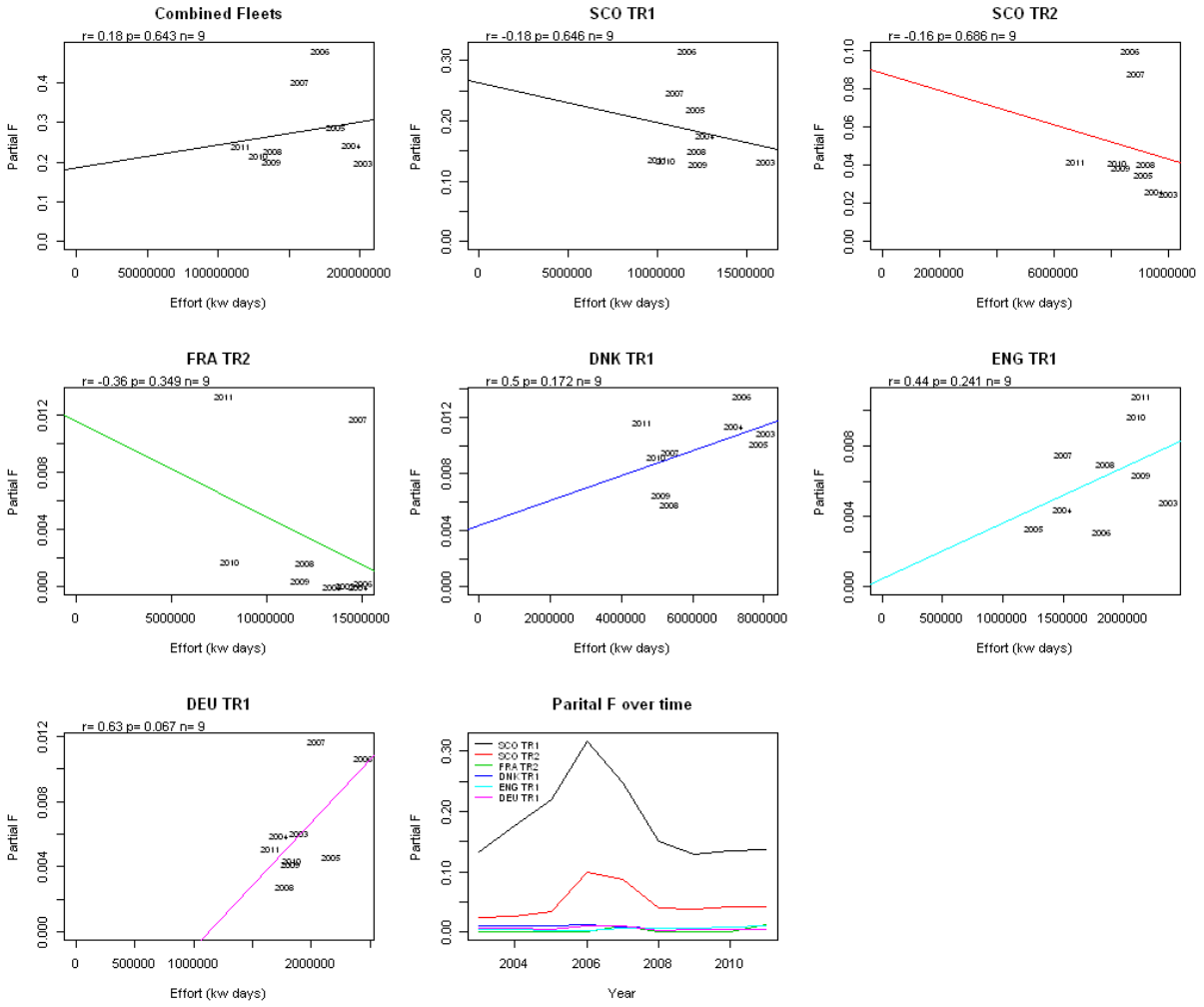


Fig. 5.3.14.2 Haddock. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) in area 3b of major fisheries, 2003-2011. R = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated fisheries and that the trends of the fisheries are not separated by special conditions.

Table 5.3.14.5 Saithe. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 saithe assessment, as well as partial Fs for catches of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

F <=Fmsy=0.3													Reference year															
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		
F plan																	Effort plan/ TAC regulations												
reduction F plan																	reduction												
F estimated							0.224	0.189	0.25	0.266	0.252	0.344	0.388	0.289	0.284		Effort estimated	105172792	99777159	94132048	92706901	84414918	79425678	75531586	66796002	60126366			
reduction F estimated													0.13	-0.26	-0.02									-0.05	-0.12	-0.1			
																	EFFORT											2003-2011	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
IIa	3b	POK	BEL	BT1	none	catch	0	0	0	0	0	0	0	0	0			1036595	1439951	1509759	1333012	1320169	987634	575501	486680	644908	0.65	0.058	9
IIa	3b	POK	BEL	BT2	none	catch	0	0	0	0	0	0	0	0	0			6824266	6717425	5952619	6201205	5891626	6228335	5531728	4368821	3470955	0.542	0.132	9
IIa	3b	POK	BEL	TR1	none	catch	0	0	0	0	0	0	0	0	0			0	1989	0	0	161520	201379	220428	220777	129741	NA	NA	6
IIa	3b	POK	BEL	TR2	none	catch	0	0	0	0	0	0	0	0	0			0	546386	354543	390268	312570	441190	553209	638857	600864	0.53	0.176	8
IIa	3b	POK	DEU	BT1	none	catch	0	0	0	0	0	0	0	0	0			47736	31698	2128	53986	30297	17674	0	884	1535	NA	NA	8
IIa	3b	POK	DEU	BT2	none	catch	0	0	0	0	0	0	0	0	0			1669870	2080593	2212397	1927398	1590823	1464163	1666322	1801775	1240530	NA	NA	9
IIa	3b	POK	DEU	GN1	none	catch	0	0	0	0	0	0	0	0	0			191424	163665	273203	236585	152633	281182	235144	276024	225797	0.086	0.826	9
IIa	3b	POK	DEU	TR1	CPart13.2.b	catch	0	0	0	0	0	0	0.033	0.0248	0.0204			0	0	0	0	0	0	927872	918707	846030	NA	NA	3
IIa	3b	POK	DEU	TR1	none	catch	0.0415	0.0312	0.0358	0.0392	0.0616	0.0416	0.0139	0.0087	0.0094			1895838	1719696	2166578	2436727	2041064	1774792	891953	912558	805546	0.844	0.004	9
IIa	3b	POK	DEU	TR2	CPart13.2.b	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	2420	39820	31020	NA	NA	3
IIa	3b	POK	DEU	TR2	none	catch	0	0	0	0	0	0	0	0	0			1040874	905330	704404	771597	680681	457259	471414	424525	410357	0.573	0.107	9
IIa	3b	POK	DNK	BT1	none	catch	0	0	0	0	0	0	0	0	0			1498917	1366044	1316858	788891	856617	449199	413427	569744	433062	0.688	0.04	9
IIa	3b	POK	DNK	BT2	none	catch	0	0	0	0	0	0	0	0	0			116717	87890	100871	92798	104694	39730	78215	3678	440	NA	NA	9
IIa	3b	POK	DNK	GN1	none	catch	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0003	0.0002			2556357	2503663	2355996	2086597	1234706	1328785	1475494	1567471	1443100	0.174	0.654	9
IIa	3b	POK	DNK	GT1	none	catch	0	0	0	0	0	0	0	0	0			143427	246854	240716	184802	98425	126223	197308	178830	223000	0.054	0.891	9
IIa	3b	POK	DNK	LL1	none	catch	0	0	0	0	0	0	0	0	0.0002			128989	85345	44687	45289	18078	27772	30722	48293	62587	0.249	0.519	9
IIa	3b	POK	DNK	TR1	none	catch	0.0125	0.0112	0.0113	0.0091	0.0105	0.0156	0.02	0.0153	0.013			8054769	7154017	7853341	7402801	5385763	5347921	5120432	4972090	4582610	-0.563	0.115	9
IIa	3b	POK	DNK	TR2	none	catch	0.0056	0.0049	0.0066	0.0063	0.0049	0.0083	0.0094	0.0075	0.0051			7650904	8088391	5913518	4689098	3433945	3310190	3394115	3199997	3317731	-0.459	0.214	9
IIa	3b	POK	DNK	TR3	none	catch	0.0008	0.0006	0.0003	0.0003	0.0001	0	0	0	0			3276080	3226366	2586161	1822500	846368	939474	607063	1077111	334898	0.95	0	9
IIa	3b	POK	ENG	BT1	none	catch	0	0	0	0	0	0	0	0	0			1060810	671129	618160	1321240	305837	228530	265710	202684	169873	0.471	0.2	9
IIa	3b	POK	ENG	BT2	none	catch	0	0	0	0	0	0	0	0	0			3572791	4230884	4470070	3333673	3576089	2343694	2891909	3528678	2942307	0.453	0.22	9
IIa	3b	POK	ENG	GN1	none	catch	0	0	0	0	0	0	0	0	0			342138	362508	308493	311045	182202	75938	188216	211651	252170	0.717	0.03	9
IIa	3b	POK	ENG	GT1	none	catch	0	0	0	0	0	0	0	0	0			12387	10306	14525	17181	10999	22498	18440	25367	20026	NA	NA	9
IIa	3b	POK	ENG	LL1	none	catch	0	0	0	0	0	0	0	0	0			147068	115019	182590	95139	53675	45863	42923	57724	44458	0.853	0.003	9
IIa	3b	POK	ENG	TR1	CPart13	catch	0	0	0	0	0	0	0.0123	0.0119	0.0118			0	0	0	0	0	0	2145727	2110555	2142321	NA	NA	3
IIa	3b	POK	ENG	TR1	none	catch	0.0081	0.0035	0.0068	0.0093	0.0119	0.0112	0	0	0			2375456	1498089	1256186	1824680	1501767	1851664	0	0	0	0.215	0.682	6
IIa	3b	POK	ENG	TR2	CPart13	catch	0	0	0	0	0	0	0.0001	0	0			0	0	0	0	0	0	1910232	1720025	1620355	NA	NA	3
IIa	3b	POK	ENG	TR2	none	catch	0.0001	0	0	0	0	0.0004	0	0	0			2098696	1976703	2187597	1892451	1769650	1959629	0	0	0	-0.05	0.926	6
IIa	3b	POK	FRA	GN1	none	catch	0	0	0	0	0	0	0	0	0			622444	406304	289076	332356	448038	198741	197488	100810	52988	0.32	0.401	9
IIa	3b	POK	FRA	GT1	none	catch	0	0	0	0	0	0	0	0	0.0002			3383987	3426003	4121419	5467522	5292713	3621742	3617988	2431158	2529724	-0.539	0.134	9
IIa	3b	POK	FRA	LL1	none	catch	0	0	0	0	0	0	0	0	0			144804	163370	97311	114742	162573	216282	216282	166766	94156	0.604	0.085	9
IIa	3b	POK	FRA	TR1	CPart13.2.b *)	catch	0.0771	0.0445	0.0354	0.0495	0.0756	0.0491	0.0549	0.0152	0.0227			3485216	2348974	1961936	2724981	2642190	2787798	2696190	2004742	1841280	0.857	0.003	9
IIa	3b	POK	FRA	TR2	CPart13.2.b *)	catch	0	0	0	0	0	0	0.0002	0	0			14154807	14841436	13427913	15043571	14787652	12000527	11759062	8070194	7727033	-0.132	0.735	9
IIa	3b	POK	FRA	TR3	none	catch	0	0	0	0	0	0	0	0	0			76197	81511	106826	115612	138596	67827	66507	148174	125135	NA	NA	9
IIa	3b	POK	IRL	TR1	none	catch	0	0	0	0	0	0	0	0	0			1847	0	0	0	0	0	0	0	0	NA	NA	1
IIa	3b	POK	IRL	TR2	none	catch	0	0	0	0	0	0	0	0	0			54	884	0	0	0	0	0	0	0	NA	NA	2
IIa	3b	POK	NIR	BT1	none	catch	0	0	0	0	0	0	0	0	0			965239	543305	36825	0	0	0	0	0	0	NA	NA	3
IIa	3b	POK	NIR	TR1	CPart13	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	56140	29360	33246	NA	NA	3
IIa	3b	POK	NIR	TR1	none	catch	0	0	0	0	0	0	0	0	0			0	16948	70711	51951	61460	49104	0	0	0	0.519	0.37	5
IIa	3b	POK	NIR	TR2	CPart13	catch	0	0	0	0	0	0	0	0.0001	0.0002			0	0	0	0	0	0	385631	398496	273858	NA	NA	3
IIa	3b	POK	NIR	TR2	none	catch	0	0	0	0	0.0001	0.0003	0	0	0			6784	12440	221904	532885	758972	409182	0	0	0	0.343	0.506	6

Table 5.3.14.5 continued.

F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
IIa	3b	POK	NLD	TR1	none	catch	0	0	0	0	0	0	0.0001	0	0.0001			689783	593232	547564	532260	648039	1411644	1323312	1415882	1176692	0.493	0.178	9
IIa	3b	POK	NLD	TR2	none	catch	0	0	0	0	0	0	0	0	0			2089748	1813096	1643732	1512140	1819497	2482280	1937751	1936340	1921901	NA	NA	9
IIa	3b	POK	SCO	BT1	none	catch	0	0	0	0	0	0	0	0	0			866666	694716	730810	603091	349914	68568	53082	0	0	0.554	0.196	7
IIa	3b	POK	SCO	BT2	none	catch	0	0	0	0	0	0	0	0	0			3766255	4610314	4185264	3109683	2800641	1354776	560729	144306	0	0.489	0.219	8
IIa	3b	POK	SCO	GN1	none	catch	0	0	0	0	0	0	0	0	0			196852	197407	165644	293823	320785	417076	376332	440579	607650	NA	NA	9
IIa	3b	POK	SCO	LL1	none	catch	0	0	0	0	0	0	0	0	0			57163	4350	0	7542	1487	276674	620890	301689	156352	-0.36	0.381	8
IIa	3b	POK	SCO	TR1	CPart13.2.b-c	catch	0	0	0	0	0	0	0.0284	0.0245	0.0215			0	0	0	0	0	0	12245575	10444829	9986666	NA	NA	3
IIa	3b	POK	SCO	TR1	none	catch	0.0188	0.0158	0.0151	0.0149	0.0306	0.0315	0	0	0			16080003	12684328	12158294	11661338	11022980	12176291	0	0	0	-0.279	0.593	6
IIa	3b	POK	SCO	TR2	CPart13.2.b-c	catch	0	0	0	0	0	0	0.0011	0.0009	0.003			0	0	0	0	0	0	8344074	8205442	6768863	NA	NA	3
IIa	3b	POK	SCO	TR2	none	catch	0.0022	0.0024	0.0021	0.0014	0.0024	0.0021	0	0	0			10011344	9486074	9108230	8677821	8887263	9195955	0	0	0	0.476	0.34	6
IIa	3b	POK	SCO	TR3	none	catch	0	0	0	0	0	0	0	0	0			6377	5460	2356	116	11896	0	33117	27524	0	NA	NA	7
IIa	3b	POK	SWE	GN1	none	catch	0	0	0	0	0	0	0	0	0			102519	127286	89748	76409	58618	96877	101209	67326	70682	-0.34	0.37	9
IIa	3b	POK	SWE	GT1	none	catch	0	0	0	0	0	0	0	0	0			13801	16206	27824	56771	62309	63022	36250	21260	23899	-0.169	0.664	9
IIa	3b	POK	SWE	LL1	none	catch	0	0	0	0	0	0	0	0	0			32305	44221	42904	123481	165019	53381	11352	6600	8580	-0.312	0.413	9
IIa	3b	POK	SWE	TR1	none	catch	0.0046	0.0046	0.0039	0.0027	0.0035	0.0038	0.0027	0.0024	0.0023			553332	470803	496754	292520	357841	426261	255594	207882	216991	0.964	0	9
IIa	3b	POK	SWE	TR2	none	catch	0.0009	0.0008	0.0006	0.0015	0.0008	0.001	0.0013	0.0011	0.0003			2123156	1955220	1972039	2116735	2055318	2100952	781107	661331	514449	0.122	0.755	9
IIa	3b	POK	SWE	TR3	none	catch	0	0	0	0	0	0	0	0	0			0	3330	1564	588	919	0	0	1986	0	0.861	0.061	5
Sum							0.1725	0.1197	0.1181	0.1343	0.2021	0.165	0.1776	0.1127	0.1104			105172792	99777159	94132048	92706901	84414918	79425678	75531586	66796002	60126366	0.208	0.591	9
check sum Fpar/F							0.7701	0.6333	0.4724	0.5049	0.802	0.4797	0.4577	0.39	0.3887														

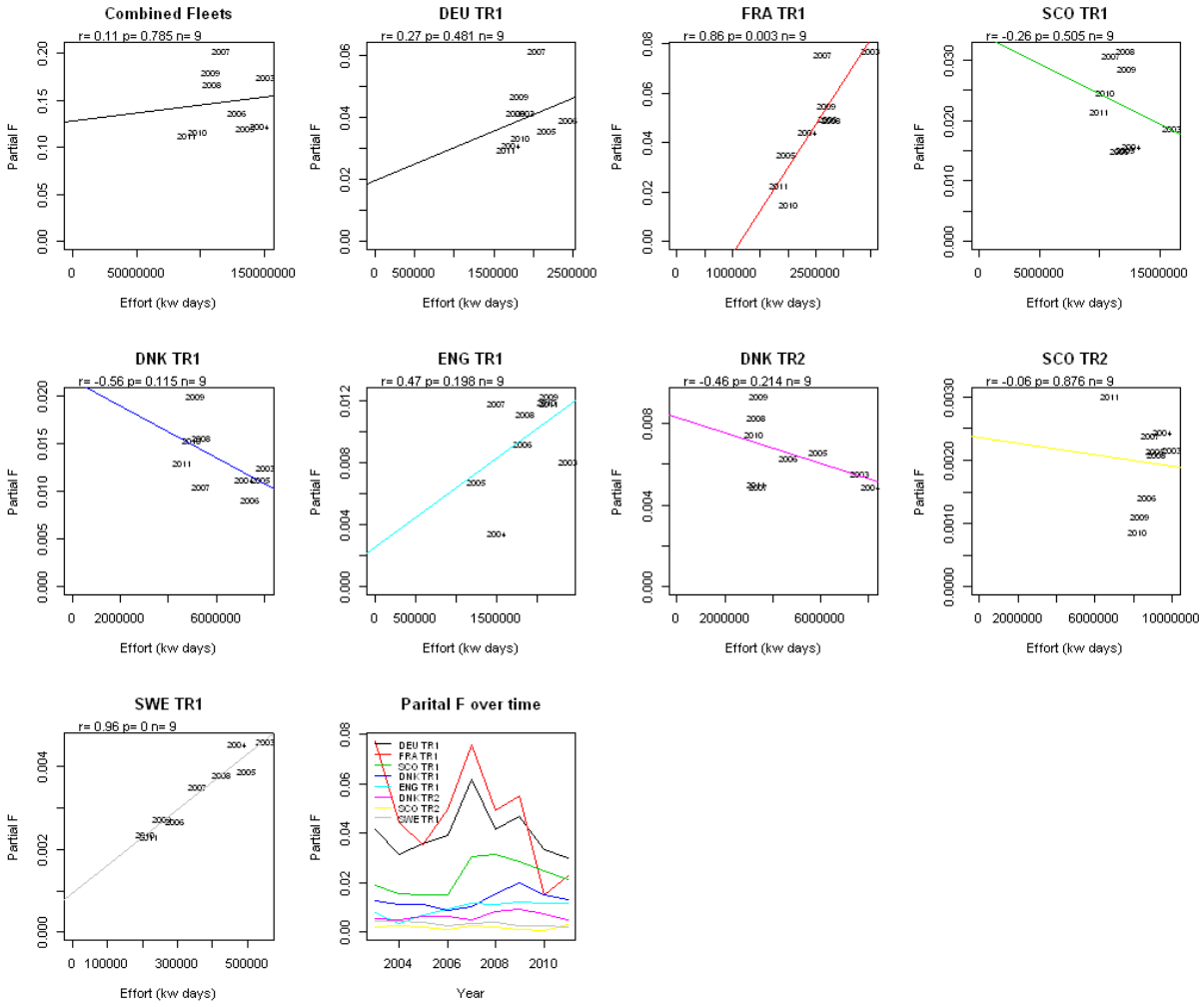


Fig. 5.3.14.3 Saithe. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) in area 3b of major fisheries, 2003-2011. R = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated fisheries and that the trends of the fisheries are not separated by special conditions.

Table 5.3.14.6 Plaice. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 plaice assessment, as well as partial Fs for catches of fisheries using regulated gears (in the North Sea). The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

10% annual reduction in 2008 and therafter until F <=Fmsy=0.3 running year											Reference year																			
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012				
F plan							0.61	0.481	0.41	0.375	0.317	0.3	0.3	0.3	0.3		Effort plan/ TAC regulations													
reduction F plan												-0.05	0	0	0		reduction													
F estimated							0.61	0.481	0.41	0.375	0.317	0.237	0.211	0.206	0.229		Effort estimated	124861239	116095478	112540213	103726248	94247087	83114600	81622521	77255773	69000819					
reduction F estimated												-0.25	-0.11	-0.02	0.11								-0.02	-0.05	-0.11					
																	EFFORT											2003-2011		
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p	n
IIa	4	PLE	BEL	BT1	none	catch	0.0043	0.0054	0.004	0.005	0.0072	0.0033	0.002	0.0018	0.0035			1036595	1439951	1509759	1333012	1320169	984056	575501	486680	644908	0.778		0.014	9
IIa	4	PLE	BEL	BT2	none	catch	0.0279	0.014	0.0082	0.0059	0.0057	0.0054	0.0054	0.0062	0.0067			4241216	4294884	3884007	3418751	2707991	3536979	3327143	2464058	1704406	0.567		0.111	9
IIa	4	PLE	BEL	GN1	none	catch	0	0	0	0	0	0	0	0	0			111613	152642	148827	127951	128626	158409	161734	185807	95383	-0.253		0.511	9
IIa	4	PLE	BEL	GT1	none	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	15402	18000	5014	20180	18155	0.312		0.609	5
IIa	4	PLE	BEL	LL1	none	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	1768	0	3047	128	NA		NA	3
IIa	4	PLE	BEL	TR1	none	catch	0	0	0	0	0.0006	0.0005	0.0004	0.0004	0.0006			0	1989	0	0	161520	201379	220428	210558	128701	0.704		0.119	6
IIa	4	PLE	BEL	TR2	none	catch	0	0.0017	0.0019	0.0023	0.0007	0.0006	0.0006	0.0006	0.0007			0	519343	343840	366940	298814	425374	506865	506549	422259	-0.255		0.541	8
IIa	4	PLE	BEL	TR3	none	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	663	0	3536	0	NA		NA	2
IIa	4	PLE	DEU	BT1	none	catch	0.0002	0.0001	0	0.0009	0.0004	0.0001	0	0	0			47736	29712	2128	53986	30297	16790	0	884	1535	0.763		0.028	8
IIa	4	PLE	DEU	BT2	none	catch	0.0137	0.0195	0.0146	0.0102	0.0061	0.0036	0.0053	0.007	0.0049			1669870	2060092	2212397	1927398	1590823	1464163	1666322	1801775	1240530	0.769		0.015	9
IIa	4	PLE	DEU	GN1	none	catch	0.0001	0.0001	0.0001	0	0.0001	0	0.0002	0.0001	0.0001			157908	109661	245164	235427	145714	278008	233164	217051	177304	-0.194		0.617	9
IIa	4	PLE	DEU	GT1	none	catch	0	0	0	0	0	0	0	0	0			0	0	0	1547	0	0	15444	1188	924	NA		NA	4
IIa	4	PLE	DEU	TR1	CPart13.2.b	catch	0	0	0	0	0	0	0	0	0.0001			0	0	0	0	0	0	803639	891902	813705	NA		NA	3
IIa	4	PLE	DEU	TR1	none	catch	0.0017	0.001	0.0009	0.0043	0.0026	0.0036	0.0012	0.0016	0.0017			1742816	1508291	1980199	2123868	1662900	1573396	756941	826074	742295	0.424		0.255	9
IIa	4	PLE	DEU	TR2	CPart13.2.b	catch	0	0	0	0	0	0	0	0.0006	0.0004			0	0	0	0	0	0	2420	39820	31020	NA		NA	3
IIa	4	PLE	DEU	TR2	none	catch	0.0193	0.0125	0.0101	0.0099	0.0055	0.003	0.0035	0.0033	0.0031			1013535	893439	704404	771597	680681	457259	470754	420345	408157	0.955		0	9
IIa	4	PLE	DEU	TR3	none	catch	0	0	0	0	0	0	0	0	0			1028	0	0	772	884	4410	426	0	0	-0.25		0.685	5
IIa	4	PLE	DNK	BT1	none	catch	0.0081	0.0063	0.0067	0.0044	0.0042	0.0015	0.0014	0.0017	0.0023			1122195	887830	996227	511642	527282	370939	371092	517646	373757	0.946		0	9
IIa	4	PLE	DNK	BT2	none	catch	0.0017	0.0001	0.0008	0.0004	0.0001	0	0.0005	0	0			89457	38279	62036	42447	1390	2894	49163	0	440	0.896		0.003	8
IIa	4	PLE	DNK	GN1	none	catch	0.0176	0.0106	0.01	0.0073	0.0043	0.0027	0.0153	0.0029	0.0029			2075696	2156817	2028558	1790218	951521	1003280	1077380	1210450	1136119	0.572		0.107	9
IIa	4	PLE	DNK	GT1	none	catch	0.0023	0.003	0.0039	0.0031	0.0019	0.0007	0.0015	0.0036	0.002			138668	244795	238266	175339	98189	100902	159833	132196	182841	0.612		0.08	9
IIa	4	PLE	DNK	LL1	none	catch	0	0	0	0	0	0	0	0	0			105361	79725	42186	42019	16264	25517	29361	45716	29388	0.497		0.173	9
IIa	4	PLE	DNK	TR1	none	catch	0.0236	0.0234	0.0176	0.0198	0.0164	0.0147	0.0108	0.0117	0.016			7382060	6518731	6531993	6132460	3930744	4055532	3813528	3610543	3663000	0.867		0.002	9
IIa	4	PLE	DNK	TR2	none	catch	0.0203	0.0183	0.0142	0.012	0.0057	0.0024	0.0011	0.0009	0.0006			2597952	2578679	1917844	1398062	1077046	702937	563009	431525	370536	0.988		0	9
IIa	4	PLE	DNK	TR3	none	catch	0.0001	0	0.0001	0	0	0	0	0	0			3041773	3018485	2351477	1750591	807900	921668	586034	1063628	333753	0.8		0.01	9
IIa	4	PLE	ENG	BT1	none	catch	0.0061	0.0038	0.003	0.0061	0.0024	0.0015	0.0016	0.001	0.0012			1060810	671129	618160	1321240	305837	228530	265710	202684	169873	0.98		0	9
IIa	4	PLE	ENG	BT2	none	catch	0.0227	0.0258	0.0246	0.0126	0.022	0.0123	0.0209	0.0277	0.0275			2739407	3559561	4046340	2974409	3251512	1975399	2491105	3257607	2741314	0.546		0.128	9
IIa	4	PLE	ENG	GN1	none	catch	0	0	0	0	0	0	0	0	0			337640	359135	300918	308516	141262	70981	176398	184103	226383	-0.045		0.908	9
IIa	4	PLE	ENG	GT1	none	catch	0	0	0	0	0	0	0	0	0			1092	1564	5342	11100	3291	12918	12654	17355	12003	0.731		0.025	9
IIa	4	PLE	ENG	LL1	none	catch	0	0	0	0	0	0	0	0	0			102465	83137	142602	54974	15752	6164	4461	12052	6253	0.604		0.085	9
IIa	4	PLE	ENG	TR1	CPart13	catch	0	0	0	0	0	0	0.0056	0.0054	0.0067			0	0	0	0	0	0	2133947	2091700	2121253	NA		NA	3
IIa	4	PLE	ENG	TR1	none	catch	0.0038	0.0032	0.0009	0.0034	0.0031	0.0035	0	0	0			2339095	1493021	1254880	1657648	1467462	1835645	0	0	0	0.728		0.101	6
IIa	4	PLE	ENG	TR2	CPart13	catch	0	0	0	0	0	0	0.0039	0.0039	0.0035			0	0	0	0	0	0	1636677	1352828	1245824	NA		NA	3
IIa	4	PLE	ENG	TR2	none	catch	0.0059	0.0041	0.0055	0.0037	0.0037	0.0043	0	0	0			1853471	1705154	1937849	1707774	1621394	1794132	0	0	0	0.881		0.02	6
IIa	4	PLE	ENG	TR3	none	catch	0	0	0	0	0	0	0	0	0			1988	7840	3315	6360	1220	492	82	718	621	-0.071		0.857	9
IIa	4	PLE	FRA	BT2	none	catch	0.0008	0.0003	0.0001	0.0001	0.0002	0.0002	0.0001	0.0001	0.0002			96232	94514	75129	66203	103453	88053	88053	40118	67545	0.509		0.161	9
IIa	4	PLE	FRA	GN1	none	catch	0	0.0001	0	0	0	0	0	0	0.0001			58454	64809	46058	31231	61545	43330	42077	2149	7803	0.33		0.386	9
IIa	4	PLE	FRA	GT1	none	catch	0.0004	0.0003	0.0003	0.0003	0.0003	0.0002	0.0002	0.0005	0.0003			830136	793053	813190	1785801	1703889	1010253	1010253	634781	690428	-0.341		0.369	9
IIa	4	PLE	FRA	TR1	CPart13.2.b *)	catch	0	0	0	0	0	0	0	0	0			3243815	2246351	1816271	2394428	2217894	2447246	2361615	1744277	1634173	-0.265		0.491	9
IIa	4	PLE	FRA	TR2	CPart13.2.b *)	catch	0.0007	0.0005	0.0003	0.0002	0.0005	0.0002	0.0002	0.0003	0.0003			1961970	1911744	1713917	1558413	1727617	1916959	1906098	1089380	960401	0.383		0.31	9
IIa	4	PLE	FRA	TR3	none	catch	0	0	0	0	0	0	0	0	0			0	1753	7121	1319	0	2184	2184	13827	2210	0.815		0.026	7

Table 5.3.14.6 continued.

F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
IIa	4	PLE	GBJ	TR2	none	catch	0	0	0	0	0	0	0	0	0			0	0	660	0	0	0	0	0	0	NA	NA	1
IIa	4	PLE	IRL	TR2	none	catch	0	0	0	0	0	0	0	0	0			54	884	0	0	0	0	0	0	0	NA	NA	2
IIa	4	PLE	NIR	BT1	none	catch	0.0045	0.0026	0.0001	0	0	0	0	0	0			965239	543305	36825	0	0	0	0	0	0	NA	NA	3
IIa	4	PLE	NIR	BT2	none	catch	0.0002	0.0005	0.0002	0	0	0	0	0	0			20350	47517	16785	0	0	0	0	0	0	NA	NA	3
IIa	4	PLE	NIR	TR1	CPart13	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	56140	29360	33246	NA	NA	3
IIa	4	PLE	NIR	TR1	none	catch	0	0	0	0	0	0	0	0	0			0	16948	70711	51951	61460	49104	0	0	0	0.887	0.045	5
IIa	4	PLE	NIR	TR2	CPart13	catch	0	0	0	0	0	0	0.0001	0	0			0	0	0	0	0	0	385631	398496	273858	NA	NA	3
IIa	4	PLE	NIR	TR2	none	catch	0	0	0	0.0001	0.0001	0	0	0	0			6784	12440	221904	532885	758972	409182	0	0	0	0.985	0	6
IIa	4	PLE	NLD	BT1	none	catch	0	0	0	0	0	0	0.0017	0.0011	0.0013			575801	700747	719292	1528652	720068	370417	412420	378796	308516	-0.521	0.15	9
IIa	4	PLE	NLD	BT2	none	catch	0.2527	0.2059	0.1633	0.1458	0.1469	0.0975	0.1045	0.0849	0.0916			47724234	44669317	44478122	38820726	37931313	27646215	28696410	28508780	25776297	0.938	0	9
IIa	4	PLE	NLD	GN1	none	catch	0	0	0	0	0	0	0	0	0			460895	416025	387945	511580	521697	507733	419797	357091	316070	-0.697	0.037	9
IIa	4	PLE	NLD	GT1	none	catch	0	0	0	0	0	0	0	0.0001	0			0	0	0	0	0	740	26917	37399	21431	NA	NA	4
IIa	4	PLE	NLD	TR1	none	catch	0	0	0	0	0	0	0.0037	0.0034	0.0051			684700	589170	547564	532260	631492	1400068	1316055	1290080	1173220	0.669	0.049	9
IIa	4	PLE	NLD	TR2	none	catch	0	0	0	0	0	0	0.0045	0.0042	0.0034			1932081	1496720	1298918	1224916	1384658	1853682	1334665	1231860	1313554	-0.448	0.226	9
IIa	4	PLE	NLD	TR3	none	catch	0	0	0	0	0	0	0	0	0			59360	42894	43261	20649	20589	4038	274	31973	23268	NA	NA	9
IIa	4	PLE	SCO	BT1	none	catch	0.0041	0.0025	0.0022	0.0035	0.002	0.0004	0.0004	0	0			866666	694716	730810	598615	349914	68568	53082	0	0	0.898	0.006	7
IIa	4	PLE	SCO	BT2	none	catch	0.0287	0.038	0.0266	0.0162	0.02	0.0104	0.0067	0.0018	0			3766255	4610314	4185264	3109683	2790865	1351721	554376	144306	0	0.959	0	8
IIa	4	PLE	SCO	GN1	none	catch	0	0	0	0	0	0	0	0	0			190598	188731	165644	247864	320785	351981	328454	438271	601531	-0.281	0.464	9
IIa	4	PLE	SCO	TR1	CPart13.2.b-c	catch	0	0	0	0	0	0	0.0072	0.006	0.0068			0	0	0	0	0	0	12205368	10391613	9974445	NA	NA	3
IIa	4	PLE	SCO	TR1	none	catch	0.0051	0.0045	0.0034	0.0045	0.0039	0.0051	0	0	0			16014890	12671168	12152835	11647505	11006248	12163360	0	0	0	0.538	0.27	6
IIa	4	PLE	SCO	TR2	CPart11	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	97359	38429	NA	NA	2
IIa	4	PLE	SCO	TR2	CPart13.2.b-c	catch	0	0	0	0	0	0	0.0035	0.0007	0.0007			0	0	0	0	0	0	8016914	7955174	6543575	NA	NA	3
IIa	4	PLE	SCO	TR2	none	catch	0.0028	0.0017	0.0017	0.0017	0.0014	0.002	0	0	0			9998940	9484446	9108230	8561810	8678139	8855808	0	0	0	0.778	0.068	6
IIa	4	PLE	SCO	TR3	none	catch	0	0	0	0	0	0	0	0	0			6377	5460	2356	116	11896	0	33117	27524	0	-0.344	0.45	7
IIa	4	PLE	SWE	LL1	none	catch	0	0	0	0	0	0	0	0	0			0	1056	4239	15026	11020	10928	11352	6600	8184	-0.08	0.85	8
IIa	4	PLE	SWE	TR1	none	catch	0	0	0	0	0	0.0001	0	0	0			381696	375455	387252	237269	269171	333387	245040	196354	189867	0.235	0.543	9
IIa	4	PLE	SWE	TR2	none	catch	0	0	0	0	0	0	0	0	0			4265	2055	1192	1298	2515	1059	0	0	0	-0.499	0.314	6
Sum							0.4794	0.4098	0.3253	0.2837	0.268	0.1798	0.214	0.1835	0.1943			124861239	116095478	112540213	103726248	94247087	83114600	81622521	77255773	69000819	0.942	0	9
check sum Fpar/F							0.7859	0.852	0.7934	0.7565	0.8454	0.7586	1.0142	0.8908	0.8485														

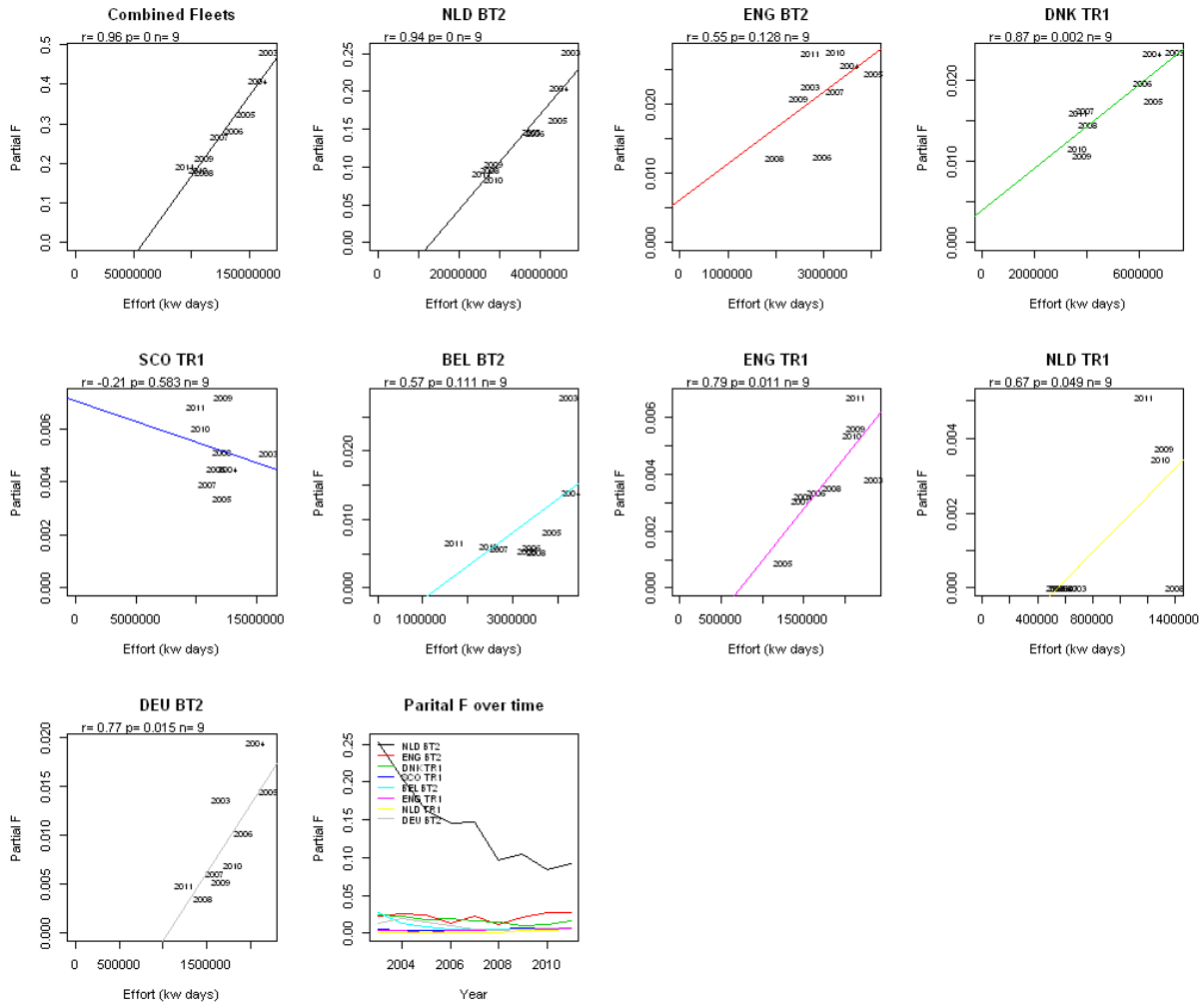


Fig. 5.3.14.4 Plaice. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) in area 3b (North Sea) of major fisheries, 2003-2011. R = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated fisheries and that the trends of the fisheries are not separated by special conditions.

Table 5.3.14.7 Sole. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 sole assessment, as well as partial Fs for catches of fisheries using regulated gears (in the North Sea). The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

| 10% annual reduction in 2008 and therafter until F <=Fmsy=0.2 running year | | | | | | | | | | | Reference year | | | | | | | | | | |

Table 5.3.14.7 continued.

F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
IIa	4	SOL	IRL	TR2	none	catch	0	0	0	0	0	0	0	0	0			54	884	0	0	0	0	0	0	0	NA	NA	2
IIa	4	SOL	NIR	BT1	none	catch	0.0012	0.0005	0.0001	0	0	0	0	0	0			965239	543305	36825	0	0	0	0	0	0	NA	NA	3
IIa	4	SOL	NIR	BT2	none	catch	0.0001	0.0001	0	0	0	0	0	0	0			20350	47517	16785	0	0	0	0	0	0	NA	NA	3
IIa	4	SOL	NIR	TR1	CPart13	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	56140	29360	33246	NA	NA	3
IIa	4	SOL	NIR	TR1	none	catch	0	0	0	0	0	0	0	0	0			0	16948	70711	51951	61460	49104	0	0	0	0.711	0.178	5
IIa	4	SOL	NIR	TR2	CPart13	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	385631	398496	273858	NA	NA	3
IIa	4	SOL	NIR	TR2	none	catch	0	0	0	0	0	0	0	0	0			6784	12440	221904	532885	758972	409182	0	0	0	0.707	0.116	6
IIa	4	SOL	NLD	BT1	none	catch	0	0	0	0	0	0	0.0004	0.0001	0			575801	700747	719292	1528652	720068	370417	412420	378796	308516	-0.296	0.44	9
IIa	4	SOL	NLD	BT2	none	catch	0.4953	0.4344	0.4594	0.3655	0.3778	0.273	0.2906	0.2881	0.2256			47724234	44669317	44478122	38820726	37931313	27646215	28696410	28508780	25776297	0.987	0	9
IIa	4	SOL	NLD	GN1	none	catch	0	0	0	0	0	0	0.0055	0.0046	0.0038			460895	416025	387945	511580	521697	507733	419797	357091	316070	-0.633	0.068	9
IIa	4	SOL	NLD	GT1	none	catch	0	0	0	0	0	0	0	0.0001	0			0	0	0	0	0	740	26917	37399	21431	NA	NA	4
IIa	4	SOL	NLD	TR1	none	catch	0	0	0	0	0	0	0	0.0001	0			684700	589170	547564	532260	631492	1400068	1316055	1290080	1173220	0.465	0.207	9
IIa	4	SOL	NLD	TR2	none	catch	0	0	0	0	0	0	0.002	0.0006	0.0008			1932081	1496720	1298918	1224916	1384658	1853682	1334665	1231860	1313554	-0.337	0.374	9
IIa	4	SOL	SCO	BT1	none	catch	0.0004	0.0001	0.0002	0.0003	0.0002	0	0	0	0			866666	694716	730810	598615	349914	68568	53082	0	0	0.846	0.016	7
IIa	4	SOL	SCO	BT2	none	catch	0.0086	0.0107	0.0139	0.0132	0.017	0.0063	0.0029	0.001	0			3766255	4610314	4185264	3109683	2790865	1351721	554376	144306	0	0.759	0.029	8
IIa	4	SOL	SCO	TR1	CPart13.2.b-c	catch	0	0	0	0	0	0	0	0	0.0001			0	0	0	0	0	0	12205368	10391613	9974445	NA	NA	3
IIa	4	SOL	SCO	TR1	none	catch	0	0	0	0	0	0	0	0	0			16014890	12671168	12152835	11647505	11006248	12163360	0	0	0	0.61	0.199	6
IIa	4	SOL	SCO	TR2	CPart11	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	97359	38429	NA	NA	2
IIa	4	SOL	SCO	TR2	CPart13.2.b-c	catch	0	0	0	0	0	0	0.0002	0.0001	0			0	0	0	0	0	0	8016914	7955174	6543575	NA	NA	3
IIa	4	SOL	SCO	TR2	none	catch	0.0001	0	0	0.0002	0.0002	0.0002	0	0	0			9998940	9484446	9108230	8561810	8678139	8855808	0	0	0	-0.753	0.084	6
IIa	4	SOL	SWE	TR1	none	catch	0	0	0	0	0	0	0	0	0			381696	375455	387252	237269	269171	333387	245040	196354	189867	-0.205	0.597	9
Sum							0.6373	0.5642	0.6137	0.5067	0.4905	0.373	0.4103	0.3851	0.2994			124600639	115855282	112322861	103441295	93880282	82746594	81249324	76751405	68367836	0.976	0	9
check sum Fpar/F							1.0802	1.0977	1.0509	1.1136	1.0526	1.0108	1.1272	1.0848	1.0115														

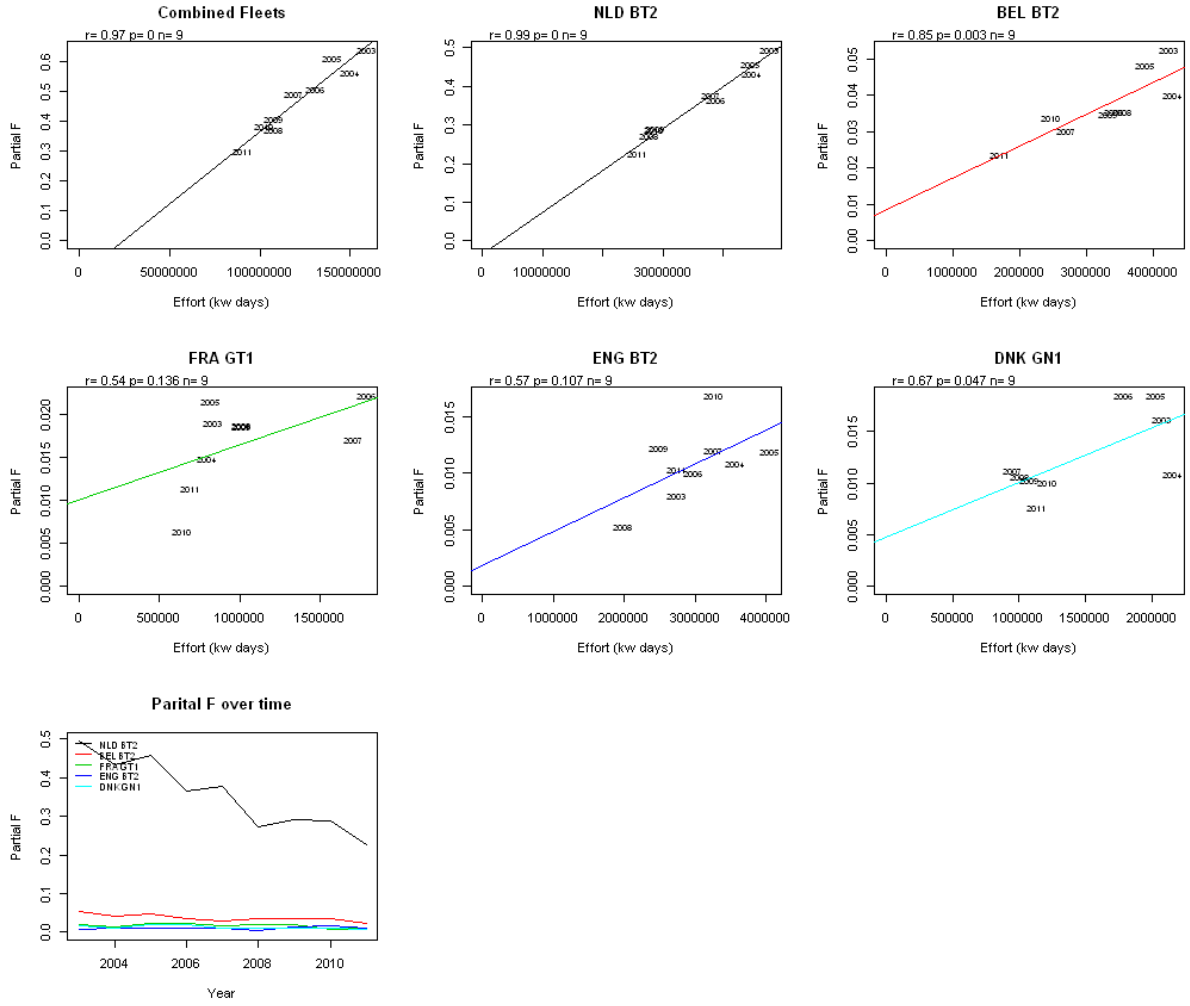


Fig. 5.3.14.5 Sole. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) in area 3b of major fisheries (North Sea), 2003-2011. R = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated fisheries and that the trends of the fisheries are not separated by special conditions.

5.3.15 ToR 12 Considerations in order to accomplish spatio-temoral patterns in standardized catchability indices for cod

The STECF EWG 12-12 and 12-12 discussed this task, elaborated and applied a specific method described in section 4.9 of the present report. STECF 12-12 performed the analyses using DCF data from the 2012 DCF data call to support fishing effort regime evaluations and North Sea survey data (IBTS Q1) 2003-2011, i.e. station data and catch data for the years 2003-2011 and the quarter 1 in any given year. Only hauls assigned valid and with haul duration equal or longer the 20 min. were considered. Cod catches were standardized to kg/hour.

The data base of scientific survey data is provided at ICES DATRAS web page: http://datras.ices.dk/Data_products/Download/Download_Data_public.aspx

Figure 5.3.15.1 displays the cod CPUE from the NS IBTS Q1 survey in 2011, and averaged over the years 2003 to 2011. In 2011, cod appears widely distributed and quite scattered over the entire North Sea,

Skagerrak and in the Eastern Channel. There are recorded high concentrations around the Shetland Islands, at the northern slope towards the Norwegian trench into the Skagerrak and in the southern bight into the Eastern Channel. Cod abundance in the central and western-central North Sea appears low. These patterns are more pronounced and smoother when averaged over the years 2006-2011 (earlier data, in particular 2003 and 2004, show a complete scattered cod distribution and appear inconclusive).

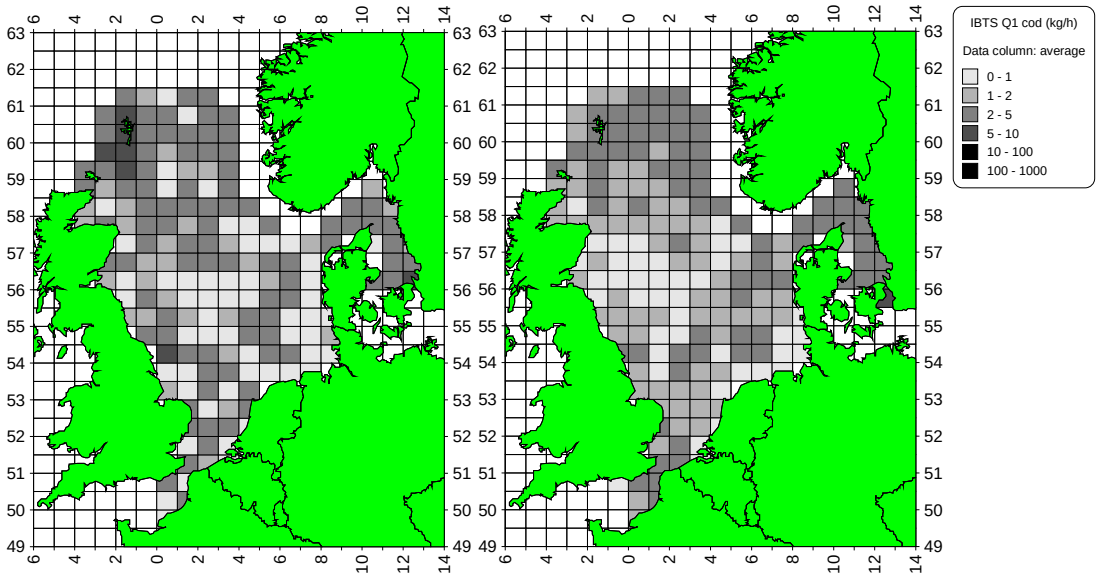


Fig. 5.3.15.1 Average annual NS IBTS Q1 CPUE indices (kg/hours) per rectangle for cod in 2011 (left panel) and averaged over 2006-2011 (right panel).

DCF 2012 estimated catches per rectangle data were summed for all effort regulated gear groups by rectangle and year, excluding catches of under 10m boats. The catches of cod per rectangle were averaged for the period 2003-2011 and resulting geographical patterns are shown below (Fig. 5.3.15.2). Average geographical distribution of catches resembles the stock distribution as perceived from the NS IBTS Q1 survey indices. Highest catches are seen around the Shetland Islands, along the northern slopes into the Norwegian trench and the Skagerrak. Higher catches are also common in the southern bight, while the central western North Sea is the area with lowest cod catches on average and in 2011.

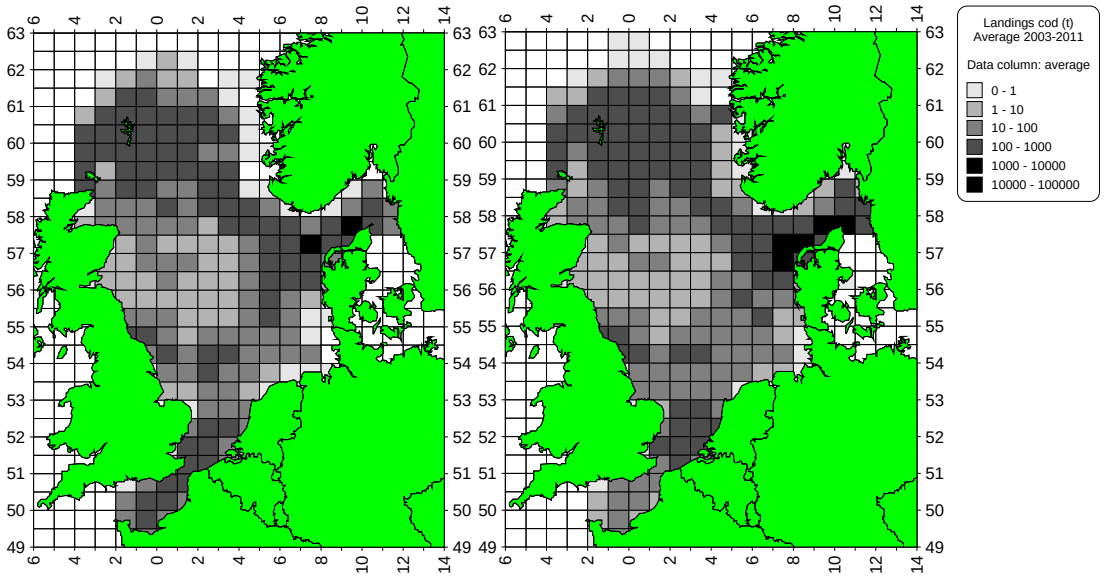


Fig. 5.3.15.2 Annual cod catches of effort regulated gear groups per rectangle in 2011 (left panel) and averaged for the period 2003-2011 (right panel).

DCF 2012 data on fishing effort per rectangle (fished hours) were summed for all effort regulated gear groups by rectangle and year, excluding the under 10m boats. The effort data per rectangle were averaged for the period 2003-2011 and resulting geographical patterns are shown below (Fig. 5.3.15.3). In 2011 and averaged over the period 2003-2011, fishing effort of the effort regulated gear groups is mainly distributed to the Northeast of Scotland, Skagerrak and all over the southern bight into the Eastern Channel. The central North Sea appears less intensively fished. There are indications that the fisheries recently tend to avoid central areas in 2011 and to fish closer to the coasts, as the central area of low fishing effort appears enlarged in 2011 in comparison with the average 2003-2011.

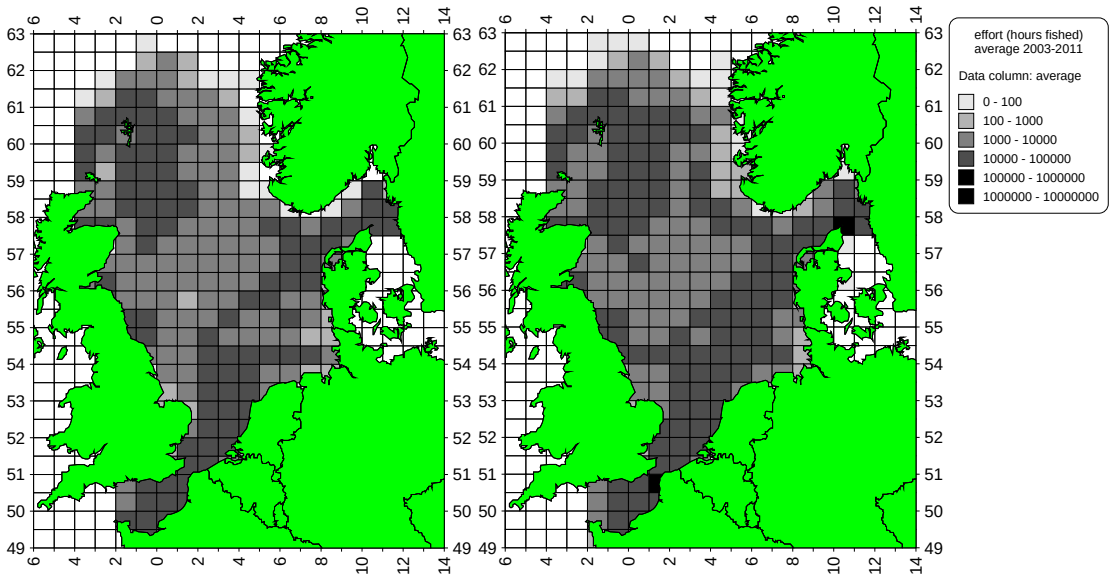


Fig. 5.3.15.3. Annual fishing effort (hours fished) of effort regulated gear groups per rectangle in 2011 (left panel) and averaged for the period 2003-2011 (right panel).

STECF EWG 12-12 notes that the resulting patterns of catchability in these specific management areas represent case studies and do not form the basis for any management advice. The resulting geographical patterns in catchability values are quite scattered, also as an effect of the standardisation using the highly variable indices from the NS IBTS Q1 survey, despite the applied log-transformation to the commercial CPUE and to the survey indices (s. section 4.9). The area of highest cod catchability is found at the north-eastern slope area towards the Norwegian trench, coinciding with areas where landings and fishing effort were found high (Fig. 5.3.15.4). The North Sea shows a scattered pattern of low and high catchability all over. Similar to the findings in the Baltic Sea, catchability in the North Sea appears more evenly distributed than the fishing activities (effort and catches) and the cod stock itself. However, the Skagerrak appears characterized by low cod catchability whilst the cod abundance and fishing is high. An inverse correlation between catchability of North Sea cod and abundance has also been found by Houghton and Flatman (1981). Low catchability is also found in many rectangles in the very southern bight into the Eastern Channel. Generally, catchability due to regulated gear activities appears to be reduced in 2011 as compared with the period 2006-2011 on average.

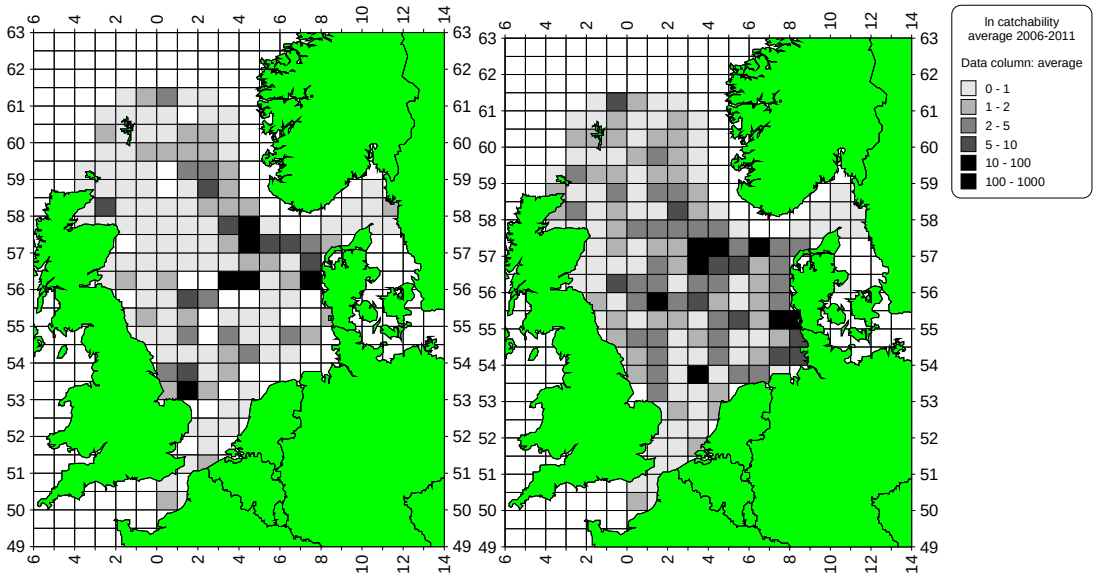


Fig. 5.3.15.4. Average cod catchability (ln(CPUE)/(ln(NS IBTS Q1 index)) of all regulated gear groups per rectangle in 2011 (left panel) and averaged for the period 2006-2011 (right panel). STECF EWG 12-12 notes that the resulting patterns of catchability in these specific management areas represent case studies and do not form the basis for any management advice.

The following sections provide information about cod catchability of major fisheries using trawled gears, i.e. BT2, TR1 and TR2. The beam trawls BT2 are only used in the central and southern North Sea. While the cod catchability patterns are scattered in the central and southern North Sea, estimated catchability indices per rectangle are generally low, in particular along the coasts in the southern bight (Fig. 5.3.15.5). In 2011 the catchability of cod due to BT2 fishing appears rather reduced as compared with the average situation in 2006-2011.

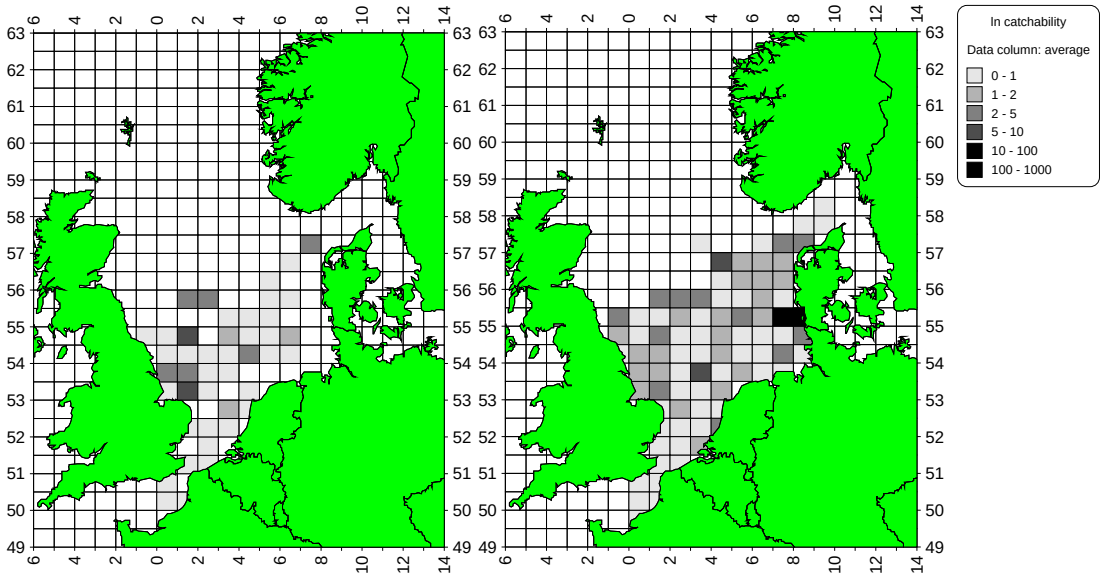


Fig. 5.3.15.5 Average cod catchability (ln(CPUE)/(ln(NS IBTS Q1 index)) for the regulated gear BT2 (beam trawl 80-119mm) per rectangle in 2011 (left panel) and averaged for the period 2006-2011 (right panel). STECF EWG 12-12 notes that the resulting patterns of catchability in these specific management areas represent case studies and do not form the basis for any management advice.

The trawls (seines and otter trawls) other than beams using mesh sizes ≥100mm represent the major cod fisheries. Therefore, patterns of cod catchability indices of TR1 (Fig. 5.3.15.6) are very similar to the catchability of all fisheries. Major features are the high catchabilty at the north-eastern slope into the Norwegian trench and the low catchability in the Skagerrak. The average patterns over 2006-2011 demonstrates a rather scattered pattern over the entire North Sea which indicates that TR1 gears may have a significant impact wherever used. In comparison with the average situation, the catchability in 2011 seems rather reduced as many rectangles appear brighter.

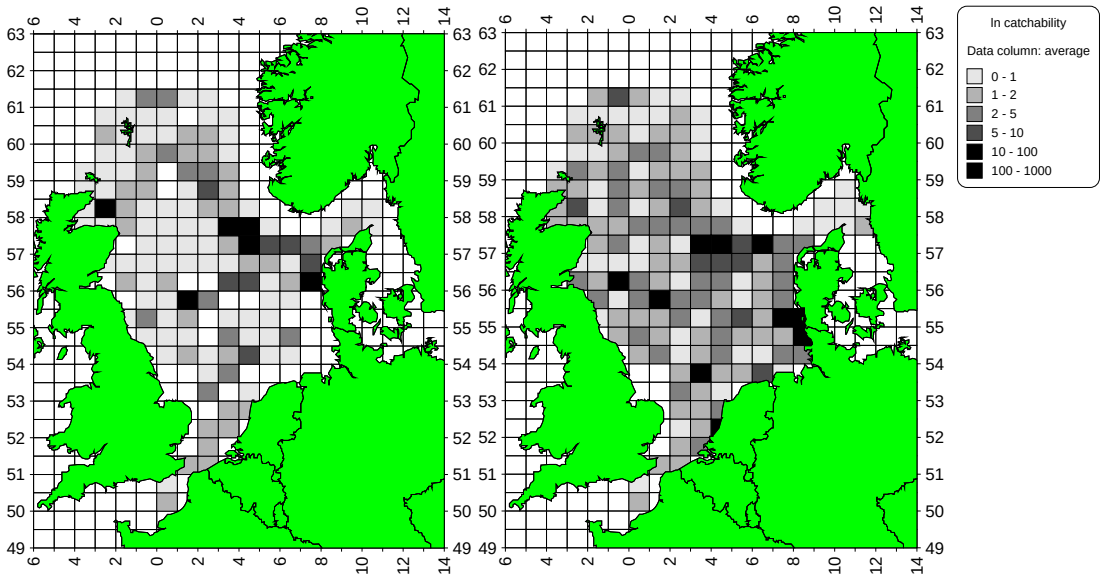


Fig. 5.3.15.6 Average cod catchability (ln(CPUE)/(ln(NS IBTS Q1 index)) for the regulated gear TR1 (trawls≥100mm) per rectangle in 2011 (left panel) and averaged for the period 2006-2011 (right panel). STECF EWG 12-12 notes that the resulting patterns of catchability in these specific management areas represent case studies and do not form the basis for any management advice.

Fig. 5.3.15.7 illustrates the catchability patterns of TR2 (otter trawls and seines ≥70 <99mm) gears. Cod catchability of TR2 gears appears generally low while high values are found in the central and southern North Sea, to the east off south England and, on average 2006-2011, also along the southern coast of Denmark and in the German bight.

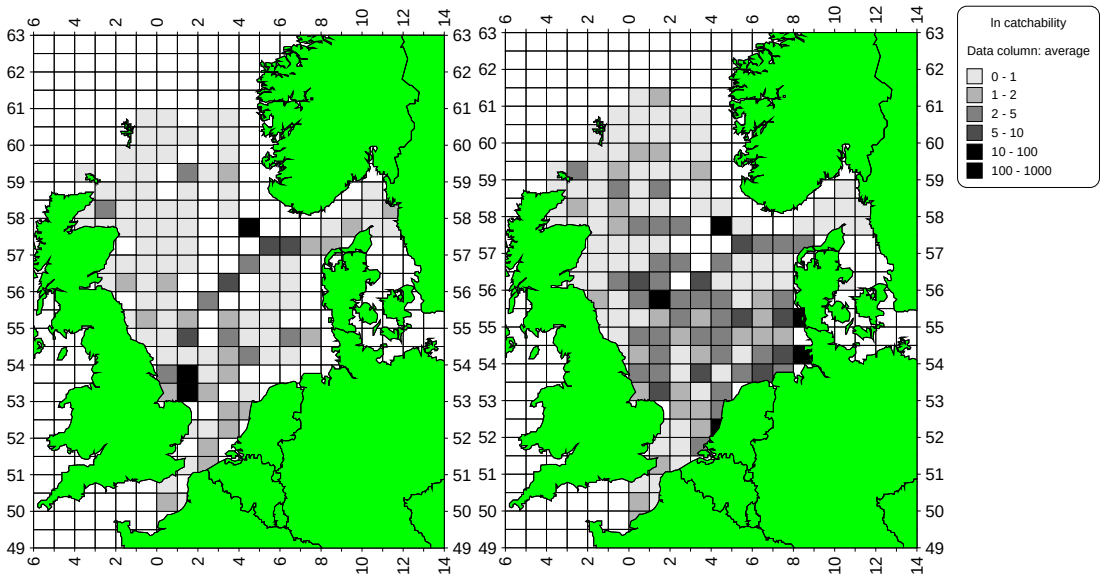


Fig. 5.3.15.7 Average cod catchability (ln(CPUE)/(ln(NS IBTS Q1 index)) for the regulated gear TR2 (trawls ≥70<99mm) per rectangle in 2011 (left panel) and averaged for the period 2006-2011 (right panel). STECF EWG 12-12 notes that the resulting patterns of catchability in these specific management areas represent case studies and do not form the basis for any management advice.

5.3.16 ToR 13 Discard estimates of cod in 2011 for specific fisheries with additional quota allocations

STECF EWG 12-12 notes that discard information is often scarce and inadequate to support provision of the requested 2011 discard estimates for specific fisheries with additional quota allocations. The landings and discards for cod by the regulated gear for the countries and areas are estimated as:

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	2EU & 4	UK (incl SCO)	TR1	11145.504	1402.372	0.112

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	4	DNK	TR1	2789.625	225.694	0.075

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	3an	DNK	TR2	938.181	480.905	0.339

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIA	cod	2011	3an & 4	DNK	GN	2252.196	unknow	unknow

5.4 West of Scotland effort regime evaluation in the context of Annex IIA to Council Regulation (EC) No 57/2011)

5.4.1 ToR 1.a Fishing effort in kWdays, GTdays and number of vessels by Member State and fisheries

According to the data provided by Member States in 2012 aggregated by categories in Coun. Reg. (EC) 1342/2008 (cod plan) the fishery West of Scotland is primarily an otter trawl fishery; beam trawls and static gears are hardly used. When Spanish data was made available in 2009, longline gears were clearly the second most important gear category; however Spanish data is not available for division VIa this year.

In terms of kWdays the overall nominal effort in ICES division VIa displays a decrease of 43% since 2003. The majority of that reduction took place between 2003 and 2005. Effort within regulated gears is 50% less in 2011 compared to 2003. Effort by trawl and seine gears (TR gears under Coun. Reg. (EC) 1342/2008) shows a long term decrease in effort and has fallen to its lowest level in the time series in 2011 (Table 5.4.1.3 and Figure 5.4.1.1). Recorded effort in 2011 was 52% lower than that in 2003 and 14% lower than in 2010. Without Spanish data the trend in long line (LL1) effort is uncertain but it is still the most important gear type after TR gears in this area.

Within the trawl gear categories it can be seen from Figure 5.4.1.2 that effort is only significant in the categories TR1 and TR2. TR3 effort is very low (with no effort recorded in 2010; Table 5.4.1.3). There is a clear contrast in effort trend between the TR1 and TR2 categories; effort using TR1 gears declined markedly between 2003 and 2006, was relatively stable from 2006 to 2009 before falling again. Effort for TR2 gears fell more slowly between 2003 and 2006 and then stabilised. Total effort expended by fisheries using these two mesh ranges is now very similar.

Three years of data are now available regarding TR effort under articles 11 and 13 of Coun. Reg. (EC) 1342/2008. Figure 5.4.1.3 shows a sharp decline in TR1 'none' effort in 2009, but this was more than compensated for by effort now categorised under CPART13 leading to a small increase in overall TR1 effort. Effort under TR1, CPART13 increased again in 2010 but the fall in TR1 'none' effort between 2009 and 2010 was bigger. Effort in both categories fell in 2011 such that overall TR1 effort is at a new low for the time series. Very small quantities of effort under TR1, CPART11 are recorded. Figure 5.4.1.4 shows a very large decline in TR2 'none' effort in 2009 which was bigger than the effort recorded for TR2, CPART13 in 2009. In 2010 and 2011 approximately 1m kWdays was recorded under TR2, CPART11. Vessels transferred from CPART13 to CPART11 in 2010 but there was also an overall reduction in effort. There was a further modest reduction in overall TR2 effort in 2011 with effort decreases for CPART11 and CPART13, but TR2, 'none' effort has increased slightly in the last two years.

Effort which could not be assigned to any existing derogation (none) has fallen by 35% in 2011 compared to 2003 (Table 5.4.1.3). Effort not assigned to a regulated gear type comprises mesh size groups 32-54mm and 55-69mm targeting pelagic resources, effort where mesh size was not identified in the data provided and unregulated gear types such as pots and dredges. Figure 5.4.1.5 illustrates the importance of unregulated gear effort within the area. Between 2004 and 2006 total effort recorded for unregulated gears exceeded that of regulated gears and this is again the case for 2011. Between 2004 and 2010 however unregulated effort decreased in line with regulated effort.

Table 5.4.1.2 shows the percentage change in effort totals supplied by Member States compared to data submitted in 2011 (and as available on the STECF website). There were revisions to all years from 2003 from Ireland although revisions to years prior to 2010 are minor (except for percentage change in GT1 effort in 2005).

Tables showing effort in terms of gross tonnage days at sea (GT*days at sea) and number of vessels by derogation are not presented in this report but are available on the JRC website: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg06

It should be noted that to record an annual number of vessels the maximum number from any of the four quarters within the year is chosen. Because vessels are not necessarily assigned exclusively to a single derogation, some multiple counting may occur if summing across derogations.

Table 5.4.1.1 West of Scotland. Trend in nominal effort (kW*days at sea) by derogations existing in Appendix 1 of Annex IIA of Coun. Reg. 43/2012 and Member State, 2000-2011. Derogations are sorted by gear type and country.

ANNEX	REG AREA	REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
IIA	3d	BT1	none	FRA				1519	15327							
IIA	3d			SCO	4894			60296	151480	119958	81195	1803				
IIA	3d	BT2	none	BEL	27240	10308	5595	19005	18103	8566	4415	2356				
IIA	3d			ENG	2294	1550	861	1274	12067	1810						
IIA	3d			FRA		1472		25827	34218							
IIA	3d			GBJ	1857											
IIA	3d			IRL					28827	5068	6335					
IIA	3d			SCO	97861	84675	103897									
IIA	3d	GN1	none	DEU	37830	37059	5292	113084	79545	26780			37334	29088	36132	21816
IIA	3d			ENG	358510	414572	399429	471808	309423	201100	23028	36174		13832	2540	
IIA	3d			FRA	103163	148158	770080	130216	169758	145478	129344	230271	572425	572425	294925	241877
IIA	3d			IRL	3734	19636	8258	19967	20763	192	3554	13346	9949	3275	551	2075
IIA	3d			NIR									3564			
IIA	3d			SCO	13446	14196	7097	47095	66913	38855	1044	553	6155			11972
IIA	3d	GT1	none	FRA	564	156032										
IIA	3d			IRL						12000	448					359
IIA	3d			SCO	2265	1416		636	435							
IIA	3d	LL1	none	ENG	675637	671367	550463	370933	459841	317428	284497	325325	28103			
IIA	3d			FRA	52948						163130	445344	277750	277750	189072	172250
IIA	3d			IRL	3693	44550	9450	7200	18400	3000		9750			1397	7263
IIA	3d			NIR	562					1574						
IIA	3d			SCO	73802	88275	181600	124695	148430	306947	371404	518887	378736	703396	723065	694992
IIA	3d	TR1	CPART11	IRL												213774
IIA	3d			SCO											44284	20755
IIA	3d		CPART13	DEU											4530	
IIA	3d			IRL										551302	754458	353477
IIA	3d			SCO										2228713	2315824	2079554
IIA	3d		none	DEU	66862	45127	23580	19191	12530	35586	27897	23652	3060	4854	2427	
IIA	3d			ENG	727872	705017	363993	319445	145914	85851	48469	8711	17020	24446	14062	12979
IIA	3d			FRA	7285816	7796882	28235453	6010785	5807538	6038254	5193815	5058616	4486887	4482329	3469228	2149300
IIA	3d			IOM	5070											
IIA	3d			IRL				496439	316477	308681	325597	530740	435661			
IIA	3d			NIR	497801	367439	300806	338394	162967	87191	29352	33609	38338	45378	23859	3160
IIA	3d			SCO	7453114	8522924	7565712	5722626	4502155	2635381	2099672	1986484	1990142			
IIA	3d	TR2	CPART11	SCO											1054957	932746
IIA	3d		CPART13	SCO										4524898	2731450	2637238
IIA	3d		none	BEL							1766	795			1176	
IIA	3d			ENG	31896	12554	35937	106861	66311	57345	63616	58724	87267	15721	14802	21642
IIA	3d			FRA	7206	10106	30278	43098	12350			883	269645	274203		
IIA	3d			IOM		562		181	1172	181	894		649			
IIA	3d			IRL				1130195	977557	767211	712325	388727	205082	17989	9150	17532
IIA	3d			NIR	328049	354350	391238	280147	353158	350269	453556	758258	652352	523976	874397	944199
IIA	3d			NLD												5464
IIA	3d			SCO	5065442	4903162	4796552	5760859	5335231	4586126	4380883	4692157	4804497			
IIA	3d	TR3	none	DNK	46920	47565	130437	156828	91088		11520					
IIA	3d			IRL				2198		342	160	317	11321	1323		5915
IIA	3d			NIR					317							
IIA	3d			SCO	14189	3775	1747	29877	6880	41202		256				
Total of regulated gears					22990537	24462729	43917755	21810679	19325175	16182376	14417916	15125738	14315937	14294898	12562286	10550339
IIA	3d		none	DEU	666036	759653	590791	729409	767344	720815	1066842	1057879	700908	490212	430923	1081790
IIA	3d			DNK	151351	78011	28933	62183	264885	157518	556042	135713	93959			119982
IIA	3d			ENG	563129	739599	660116	763289	597101	529340	1101891	1187425	746498	870027	632396	453397
IIA	3d			FRA	352507	243553	1342869	434384	453248	215280	361858	354281	275460	275460	233392	235080
IIA	3d			GBJ			10252							321		1043
IIA	3d			IOM	23922	2541	8344	8144	13229	2722	9133	11285	35882	15984	8010	18251
IIA	3d			IRL	4123007	3604844	3995866	3254759	3603506	2137558	2210269	2153596	2188949	2083459	1873475	2021702
IIA	3d			LTU										29520		150400
IIA	3d			NIR	274378	305302	543148	454206	708614	496663	477614	584492	420274	284696	386759	709247
IIA	3d			NLD	3335277	4343285	3371770	2170705	6497392	5592136	4295071	4118663	3873076	2839787	1564318	1258498
IIA	3d			SCO	7067739	7523617	8562814	8904499	9410186	8208630	5548926	4992356	4676514	5194373	5040689	4935110
Total of unregulated gears					16557346	17600405	19114903	16781578	22315505	18060662	15627646	14595690	13011520	12083839	10169962	10984500
Grand Total					39547883	42063134	63032658	38592257	41640680	34243038	30045562	29721428	27327457	26378737	22732248	21534839

Table 5.4.1.2 West of Scotland. Relative change in nominal effort (kW*days at sea) reported by Member State compared to the data submitted in 2011; by derogations existing in Appendix 1 of Annex IIA of Coun. Reg. 43/2012.

COUNTRY	ANNEX	REG AREA	REG GEAR	SPECON	VESSEL_LE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
BEL	IIa	3d	BT2	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
BEL	IIa	3d	TR2	none	O15M							0.0%	0.0%				0.0%
DEU	IIa	3d	GN1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%	
DEU	IIa	3d	TR1	CPART13	O15M												0.0%
DEU	IIa	3d	TR1	IIA83D	O15M		0.0%	0.0%			0.0%	0.0%	0.0%				
DEU	IIa	3d	TR1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
DNK	IIa	3d	TR3	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%					
ENG	IIa	3d	BT2	none	O10T15M	0.0%			0.0%								
ENG	IIa	3d	BT2	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%						
ENG	IIa	3d	GN1	none	O10T15M		0.0%										
ENG	IIa	3d	GN1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	
ENG	IIa	3d	LL1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
ENG	IIa	3d	TR1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
ENG	IIa	3d	TR2	none	O10T15M	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
ENG	IIa	3d	TR2	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
FRA	IIa	3d	BT1	none	O15M				0.0%	0.0%							
FRA	IIa	3d	BT2	none	O15M		0.0%		0.0%	0.0%							
FRA	IIa	3d	GN1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
FRA	IIa	3d	GT1	IIA83G	O15M		0.0%										
FRA	IIa	3d	GT1	none	O10T15M	0.0%											
FRA	IIa	3d	GT1	none	O15M		0.0%										
FRA	IIa	3d	LL1	none	O15M	0.0%						0.0%	0.0%	0.0%	0.0%	0.0%	
FRA	IIa	3d	TR1	IIA83D	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
FRA	IIa	3d	TR1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
FRA	IIa	3d	TR2	IIA83D	O10T15M				0.0%								
FRA	IIa	3d	TR2	IIA83D	O15M	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%			
FRA	IIa	3d	TR2	none	O10T15M				0.0%								
FRA	IIa	3d	TR2	none	O15M		0.0%								0.0%		
GBJ	IIa	3d	BT2	none	O15M	0.0%											
IOM	IIa	3d	TR1	none	O15M	0.0%											
IOM	IIa	3d	TR2	none	O10T15M									0.0%			
IOM	IIa	3d	TR2	none	O15M		0.0%		0.0%	0.0%	0.0%	0.0%					
IRL	IIa	3d	BT2	none	O15M					0.0%	0.0%	0.0%					
IRL	IIa	3d	GN1	none	O10T15M	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-30.5%	
IRL	IIa	3d	GN1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
IRL	IIa	3d	GT1	none	O10T15M							0.0%					
IRL	IIa	3d	GT1	none	O15M						121.8%						
IRL	IIa	3d	LL1	none	O10T15M											-57.3%	
IRL	IIa	3d	LL1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%				
IRL	IIa	3d	TR1	CPART13	O10T15M										0.0%	-21.0%	
IRL	IIa	3d	TR1	CPART13	O15M										0.4%	-7.1%	
IRL	IIa	3d	TR1	none	O10T15M				0.0%				0.0%	0.0%			
IRL	IIa	3d	TR1	none	O15M				0.0%	0.0%	0.0%	0.5%	0.1%	0.1%			
IRL	IIa	3d	TR2	none	O10T15M				-0.8%	-0.5%	-1.3%	-2.3%	-2.0%	0.0%	0.0%	-27.3%	
IRL	IIa	3d	TR2	none	O15M				9.6%	1.1%	0.0%	0.0%	1.2%	4.4%	0.0%	-19.4%	
IRL	IIa	3d	TR3	none	O10T15M							0.0%					
IRL	IIa	3d	TR3	none	O15M				0.0%		0.0%		0.0%	0.0%	0.0%		
NIR	IIa	3d	GN1	none	O10T15M									0.0%			
NIR	IIa	3d	LL1	none	O10T15M	0.0%					0.0%						
NIR	IIa	3d	TR1	none	O10T15M							0.0%					
NIR	IIa	3d	TR1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
NIR	IIa	3d	TR2	none	O10T15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
NIR	IIa	3d	TR2	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
NIR	IIa	3d	TR3	none	O15M					0.0%							
SCO	IIa	3d	BT1	none	O15M	0.0%			0.0%	0.0%	0.0%	0.0%	0.0%				
SCO	IIa	3d	BT2	none	O15M	0.0%	0.0%	0.0%									
SCO	IIa	3d	GN1	none	O10T15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SCO	IIa	3d	GN1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%			
SCO	IIa	3d	GT1	none	O10T15M	0.0%	0.0%		0.0%	0.0%							
SCO	IIa	3d	LL1	none	O10T15M			0.0%									
SCO	IIa	3d	LL1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
SCO	IIa	3d	TR1	CPART11	O15M												0.0%
SCO	IIa	3d	TR1	CPART13	O10T15M										0.0%	0.0%	
SCO	IIa	3d	TR1	CPART13	O15M										0.0%	0.0%	
SCO	IIa	3d	TR1	IIA83C	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SCO	IIa	3d	TR1	IIA83D	O10T15M	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%				
SCO	IIa	3d	TR1	IIA83D	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SCO	IIa	3d	TR1	none	O10T15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SCO	IIa	3d	TR1	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SCO	IIa	3d	TR2	CPART11	O10T15M												0.0%
SCO	IIa	3d	TR2	CPART11	O15M												0.0%
SCO	IIa	3d	TR2	CPART13	O10T15M										0.0%	0.0%	
SCO	IIa	3d	TR2	CPART13	O15M										0.0%	0.0%	
SCO	IIa	3d	TR2	IIA83C	O15M	0.0%	0.0%	0.0%									
SCO	IIa	3d	TR2	IIA83D	O10T15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SCO	IIa	3d	TR2	IIA83D	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SCO	IIa	3d	TR2	none	O10T15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SCO	IIa	3d	TR2	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
SCO	IIa	3d	TR3	none	O10T15M		0.0%			0.0%							
SCO	IIa	3d	TR3	none	O15M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%				

Table 5.4.1.3 West of Scotland. Trend in nominal effort (kW*days at sea) by derogation as defined by Coun. Reg. 43/2012, 2003-2011.

REG AREA	REG GEAR	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	rel chng 03	rel chng 04-06	rel chng 10
3d	BT1	none	4894			61815	166807	119958	81195	1803					-100%	-100%	
	BT2	none	129252	98005	110353	46106	93215	15444	10750	2356					-100%	-100%	
	GN1	none	516683	633621	1190156	782170	646402	412405	156970	280344	629427	618620	334148	277740	-64%	-31%	-17%
	GT1	none	2829	157448		636	435	12000	448					359	-44%	-92%	
	LL1	none	806642	804192	741513	502828	626671	628949	819031	1299306	684589	981146	913534	874505	74%	26%	-4%
	TR1	CPART11											44284	234529			430%
		CPART13										2780015	3074812	2433031			-21%
		FDFIIA											126775	402802			218%
		none	16036535	17437389	36489544	12906880	10947581	9190944	7724802	7641812	6971108	4557007	3509576	2165439	-83%	-77%	-38%
	TR2	CPART11											1054957	932746			-12%
		CPART13										4524898	2731450	2637238			-3%
		none	5432593	5280734	5254005	7321341	6745779	5761132	5613040	5899544	6019492	831889	899525	988837	-86%	-84%	10%
	TR3	none	61109	51340	132184	188903	98285	41544	11680	573	11321	1323		5915	-97%	-88%	
Total regulated gears			22990537	24462729	43917755	21810679	19325175	16182376	14417916	15125738	14315937	14294898	12689061	10953141	-50%	-34%	-14%
3d	none	none	16557346	17600405	19114903	16781578	22315505	18060662	15627646	14595690	13011520	12083839	10169962	10984500	-35%	-41%	8%
Total			39547883	42063134	63032658	38592257	41640680	34243038	30045562	29721428	27327457	26378737	22859023	21937641	-43%	-38%	-4%

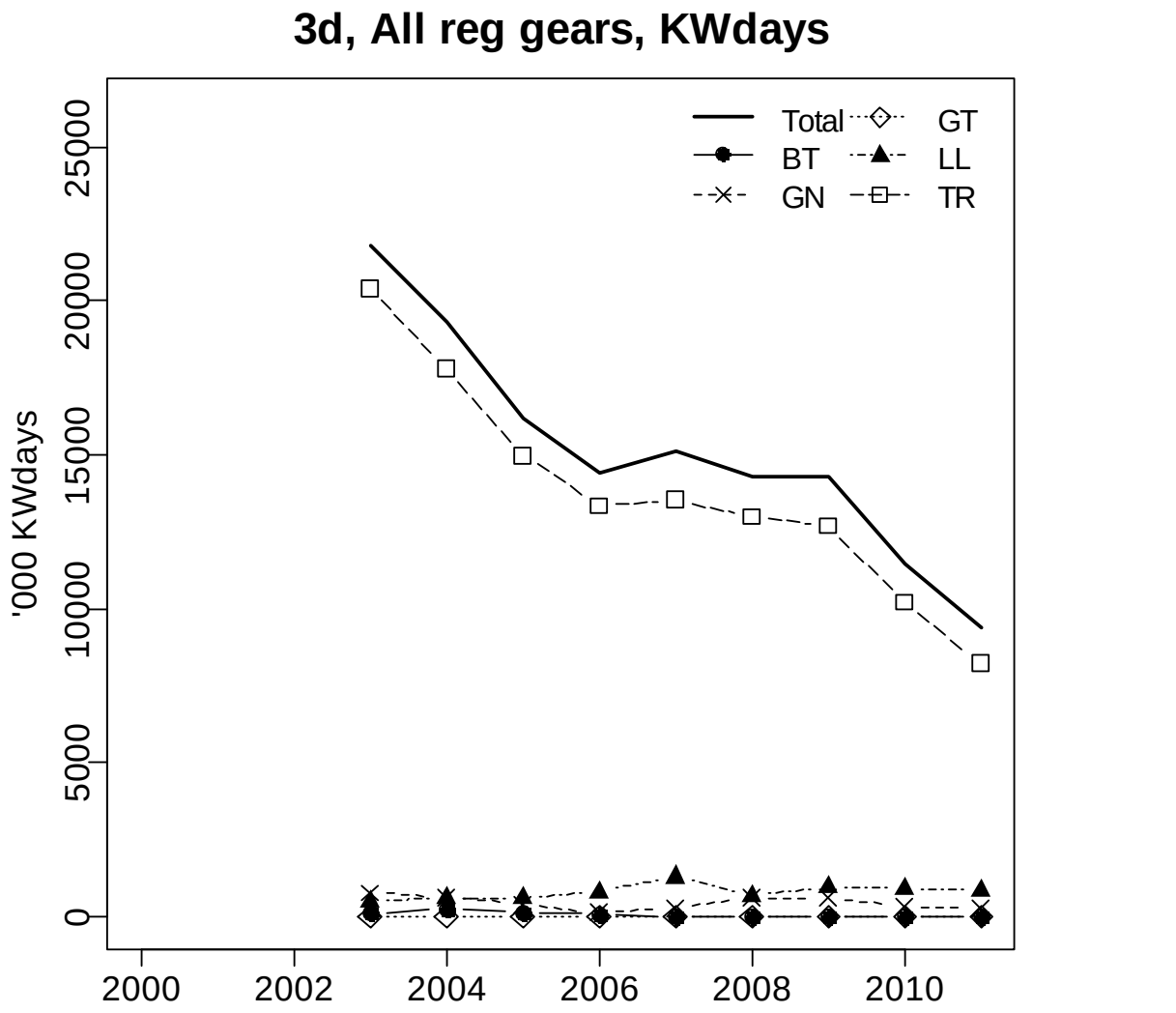


Figure 5.4.1.1 West of Scotland. Trend in nominal effort (kW*days at sea) by gear types as defined by Coun. Reg. 43/2012, 2000-2011. Values exclude effort in categories exempted from effort control (CPart11).

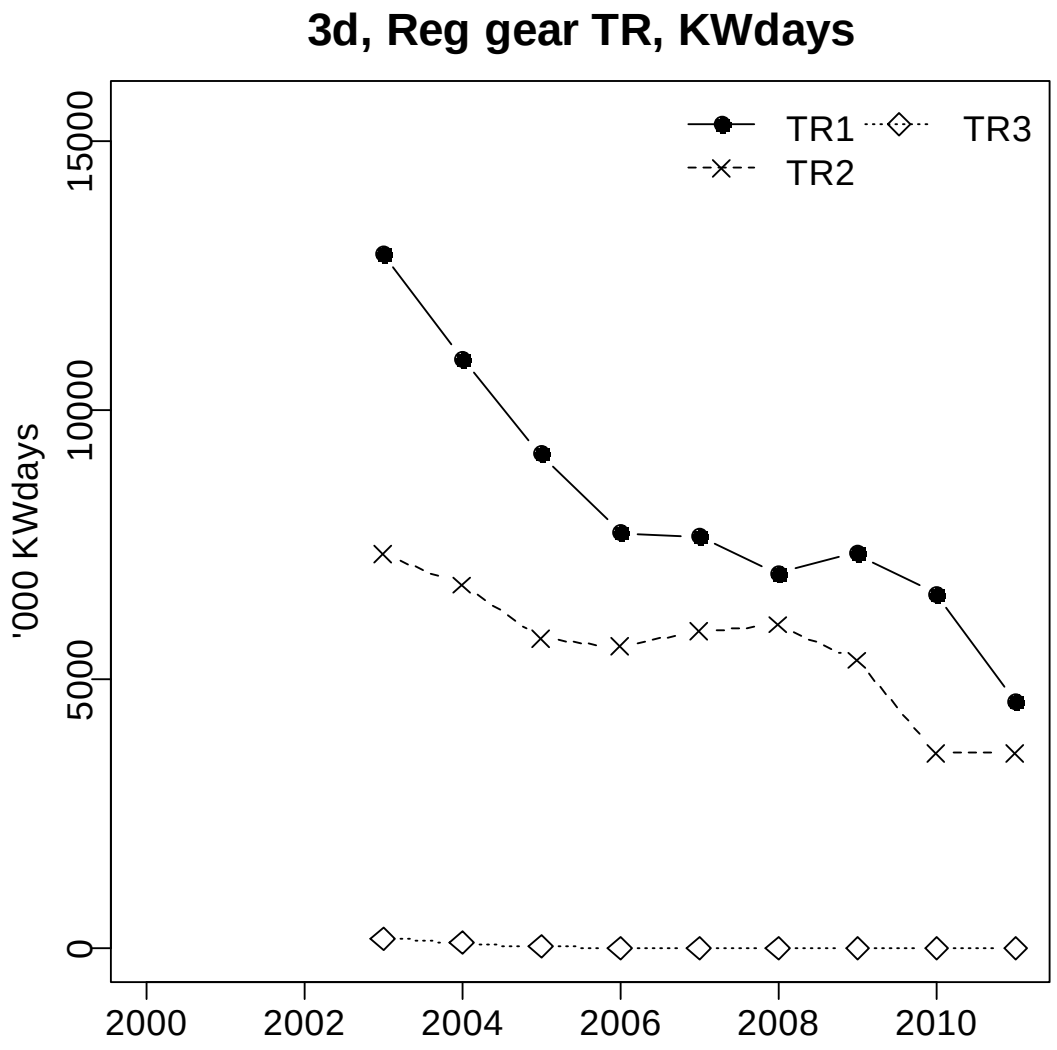


Figure 5.4.1.2 West of Scotland. Trend in nominal effort (kW*days at sea) by TR gear groups as defined by Coun. Reg. 43/2012, 2000-2011. Values exclude effort in categories exempted from effort control (CPart11).

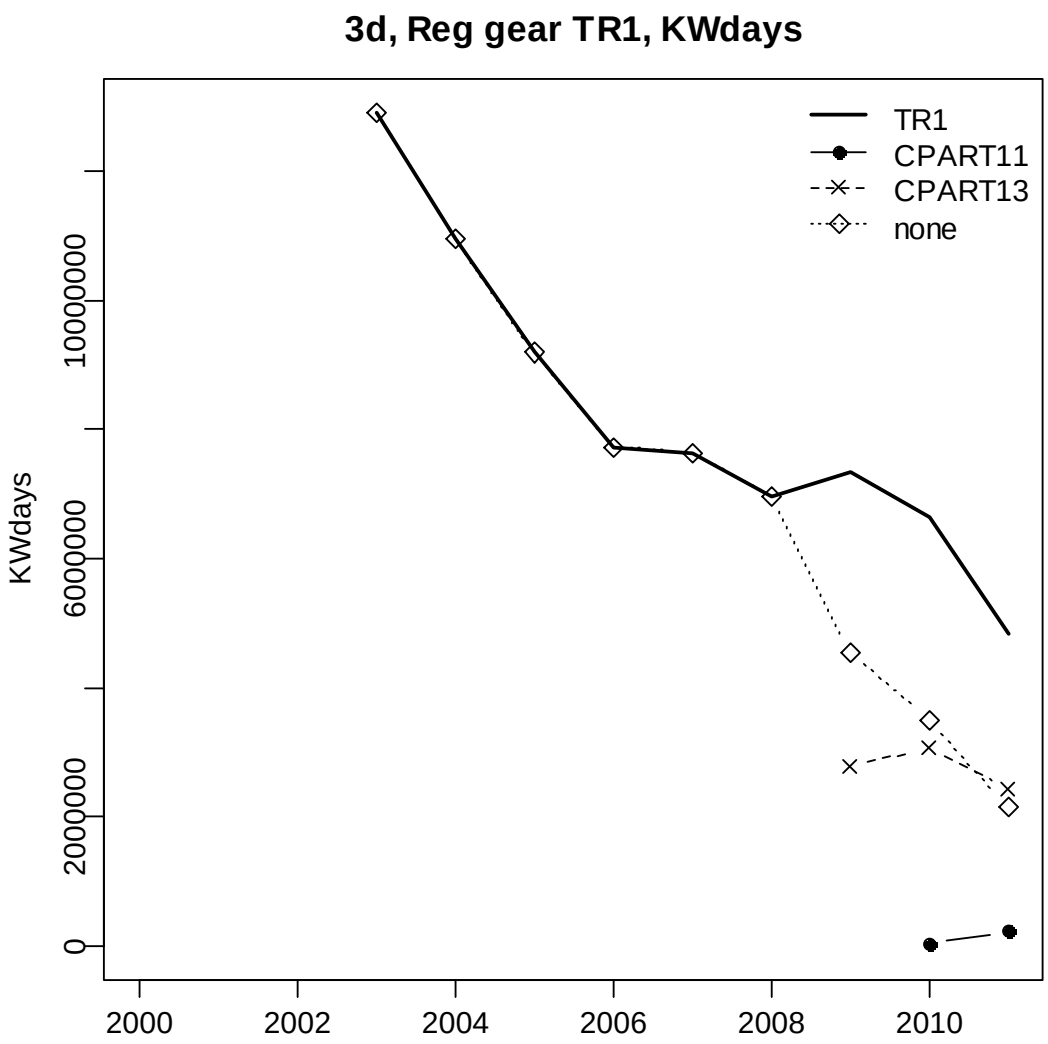


Figure 5.4.1.3 West of Scotland. Trend in nominal effort (kW*days at sea) by specon for regulated gear TR1. Line labelled TR1 represents the sum of the other lines.

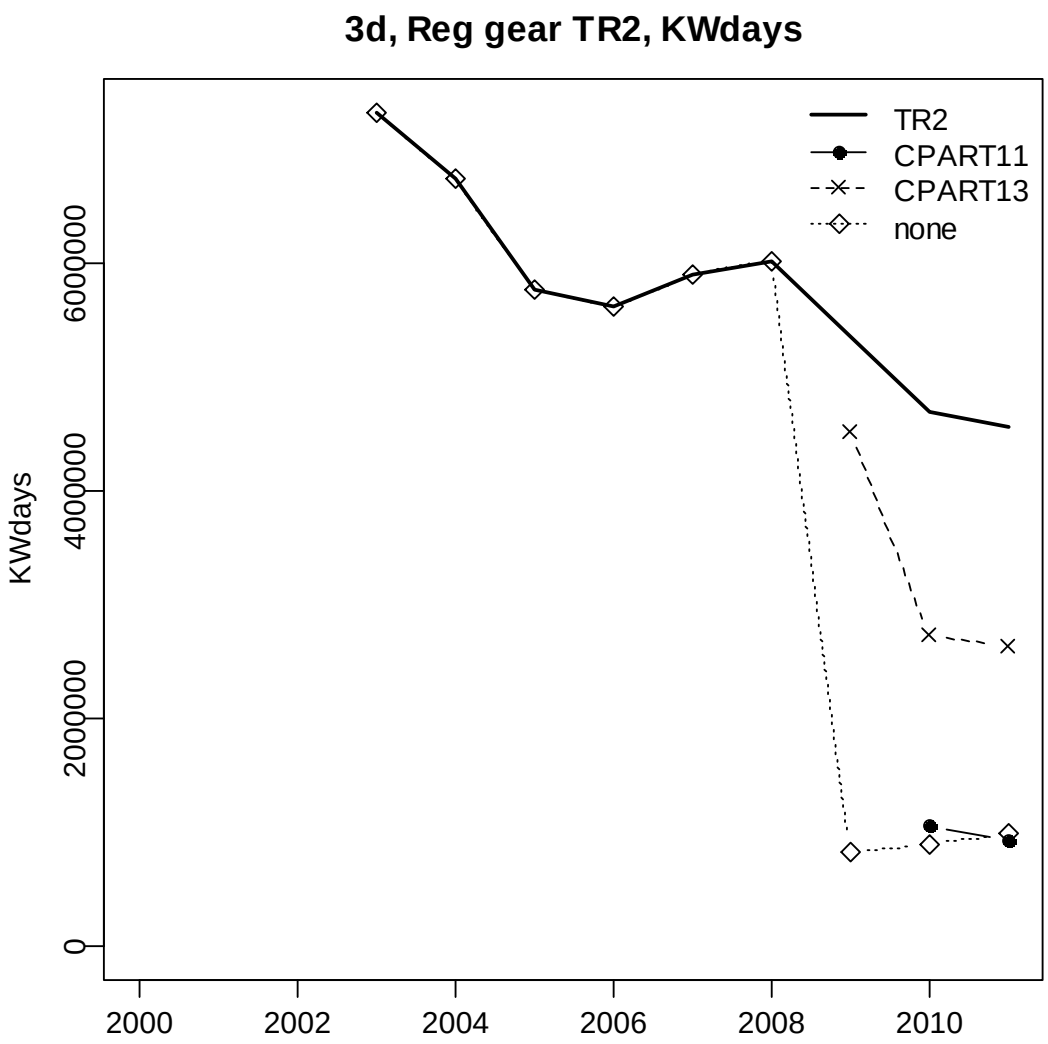


Figure 5.4.1.4 West of Scotland. Trend in nominal effort (kW*days at sea) by specon for regulated gear TR2. Line labelled TR2 represents the sum of the other lines.

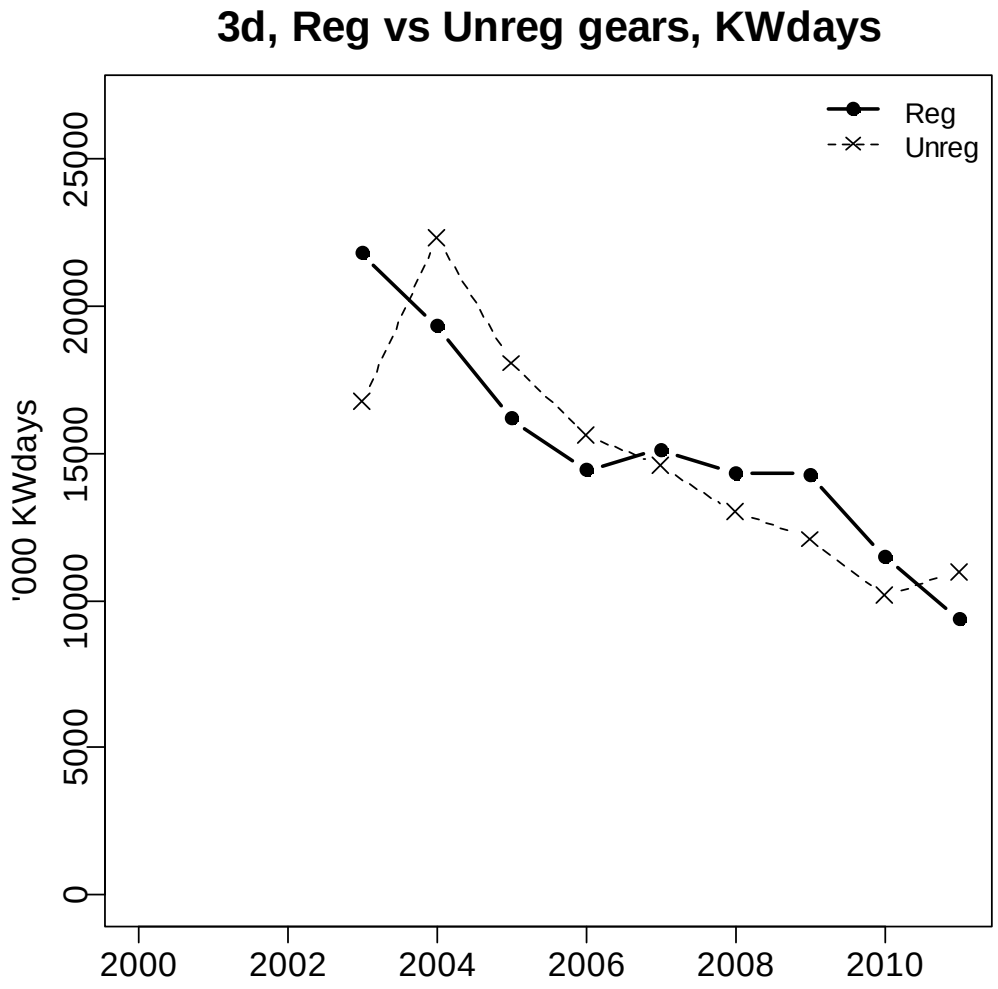


Figure 5.4.1.5 West of Scotland. Trend in nominal effort (kW*days at sea) by regulated gear groups (combined) as defined by Coun. Reg. 1342/2008 compared to unregulated gear groups (combined), 2000-2011.

5.4.2 ToR 1.b and c Catches (landings and discards) of cod and non-cod species in weight and numbers at age by fisheries

Table 5.4.2.1 lists the landings and discards for the main species by derogations according to Coun. Reg. (EC) 1342/2008. The data given in Table 5.4.2.1 forms the basis of Figure 5.4.2.1 displaying the relative catch compositions by derogations for the years 2003-2011. For brevity, the Figure 5.4.2.1 only presents results for anglerfish (ANF), cod (COD), haddock (HAD), hake, (HKE), Nephrops (NEP), plaice (PLE), saithe (POK), sole (SOL), and whiting (WHG). Discard information on Nephrops for any gear and for all other species for non-trawl gears was not available for this report. Therefore the lack of the dark bars representing discards in these figures indicates a lack of observations for non-trawl gears and a lack of information for Nephrops rather than an absence of discards.

A description of the catch compositions of the derogations relevant to the area follows:-

TR1 -- The main species caught are haddock, saithe and anglerfish. The catches of hake have been steadily rising. The landings of both hake and anglerfish now well exceed those of cod; the landings of the latter reflect the steady reduction in the cod TAC. Catches of cod have remained much higher than landings because of increased discards.

TR2 – Landings are dominated by Nephrops. Considering landings across all gear categories this species contributes the greatest contribution to landings among the demersal species. Bycatch of the finfish occur with historically high discard rates of haddock and whiting, however whiting catches are recorded as low in recent years.

TR3 – Landings for this gear category are negligible for this region.

GN1 – This category lands anglerfish, hake and saithe. The landings of hake and saithe increased rapidly to 2008 but the overall quantities are still small.

LL1 – The longline fishery lands hake almost exclusively. Landings of hake are up to 6 times that from the gillnet fishery.

Unregulated (POTS) – Of those gears not regulated under Coun. Reg. (EC) 1342/2008 the most significant landings of the species considered come from pots – in this case Nephrops (although the gear takes numerous other species).

It can be seen that landings of plaice and sole are negligible across all gear categories and west of Scotland it is only relevant to consider age specific data for cod for this region. Also, only trawl gears catch enough cod to merit a catch at age analysis. No age specific data was available for TR2 gear in 2010.

From Figure 5.4.2.2 it can be seen that catch and landings in the TR2 gear group are predominantly of fish at age two. For the larger TR1 mesh category landings are more evenly spread across ages two to four. Until 2005 discards from the TR gears were almost exclusively at ages one and two (with discards generally exceeding landings for fish at age one). In 2006 noticeable discards at age 3 were recorded against the TR1 gears. There was also greatly increased catch and discarding of cod at age one across both TR gear categories in 2006. This is believed to reflect new UK and Irish legislation successfully curtailing illegal landings. It is also considered evidence of a strong 2005 year class as is discards across gear categories of cod age two in 2007 and age 3 in 2008. In the TR1 gear category the majority of the catch of age two cod in 2007, age three cod in 2008 and cod at ages 2 to 4 in 2009 was discarded. This is believed to be because cod quota restrictions prevent a greater proportion being landed. Also for gear TR1 catches of age one cod in 2009 and age two cod in 2010 are consistent with ICES assessments for division VIa cod which indicated a relatively strong 2008 year class.

The overall discard rate of cod (by weight) has increased in years subsequent to 2003 (Table 5.4.2.1). This was due initially to higher discard rates in the smaller meshed category (TR2) but in 2006 the recorded discard rate for the TR1 gear group leapt from 1% to 49% (reflecting legislation successfully curtailing illegal landings). The rate of discarding in the TR1 gears has been between 70 and 90% in 2008-2011. Catches of cod by TR2 ‘none’ have been negligible since 2009 but the discard rates recorded for TR2 CPART13 and CPART11 are still very high (although low sampling coverage of TR2 vessels lead to high annual variation). As mentioned above it is believed the present high discard rates result from a combination of restrictive quotas, fishing opportunities for other species and year classes of cod (2005 and 2008 year classes) large enough to allow catches over and above the cod quota.

Age specific landings and discard figures can be downloaded from the EWG’s web page: http://stecf.jrc.ec.europa.eu/web/stecf/ewg06

Table 5.4.2.1 West of Scotland. Landings (t), discards (t) and relative discard rates by species (ANF, COD, HAD, HKE, NEP, PLE, POK, SOL, WHG) and derogation existing in Table 1 of Annex IIA of Coun. Reg. (EU) 43/2012 and (EU) 44/2012, 2003-2011.

ANNEX	SPECIES	REG_AREA	REG_GEAR	SPECON	COUNTRY	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
IIa	ANF	3d	BT1	none	FRA			0	0	0	0			0			0			0			0			0			0			0
IIa	ANF	3d	BT1	none	SCO	1	0	0	14	0	0	3	0	0	1	0	0			0			0			0			0			0
IIa	ANF	3d	BT2	NONE	BEL	0	0	0	0	0	0			0			0			0			0			0			0			0
IIa	ANF	3d	BT2	none	ENG	0	0	0	0	0	0			0			0			0			0			0			0			0
IIa	ANF	3d	BT2	none	FRA	0	0	0	1	0	0			0			0			0			0			0			0			0
IIa	ANF	3d	BT2	NONE	IRL			0	0	0	0			0	0	0	0			0			0			0			0			0
IIa	ANF	3d	GN1	none	DEU	29	0	0	47	0	0	39	0	0			0			0	54	0	0	75	0	0	86	0	0	59	0	0
IIa	ANF	3d	GN1	none	ENG	16	0	0	10	0	0	21	0	0	30	0	0	21	0	0			0	8	0	0	0	0	0			0
IIa	ANF	3d	GN1	none	FRA	79	0	0	237	0	0	294	0	0	212	0	0	189	0	0	401	0	0	401	0	0	1	0	0	3	0	0
IIa	ANF	3d	GN1	NONE	IRL	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0			0
IIa	ANF	3d	GN1	none	SCO	5	0	0	2	0	0	3	0	0			0			0			0			0			0	7	0	0
IIa	ANF	3d	GT1	NONE	IRL			0			0			0	1	0	0			0			0			0			0			0
IIa	ANF	3d	LL1	none	ENG			0	0	0	0	0	0	0	0	0	0	0	0	0			0			0			0			0
IIa	ANF	3d	LL1	none	SCO	0	0	0			0			0			0			0			0			0			0			0
IIa	ANF	3d	TR1	CPART11	IRL			0			0			0			0			0			0			0			0	58	4	0.06
IIa	ANF	3d	TR1	CPart11	SCO			0			0			0			0			0			0			0	0	0	0	0	0	0
IIa	ANF	3d	TR1	CPart13	DEU			0			0			0			0			0			0			0	0	0	0			0
IIa	ANF	3d	TR1	CPART13	IRL			0			0			0			0			0			0	313	1	0	516	9	0.02	411	6	0.01
IIa	ANF	3d	TR1	CPart13	SCO			0			0			0			0			0			0	797	2	0	999	15	0.01	953	11	0.01
IIa	ANF	3d	TR1	none	DEU			0			0	0	0	0	1	0	0	0	0	0	0	0	0			0			0			0
IIa	ANF	3d	TR1	none	ENG	19	57	0.75	26	20	0.43	14	0	0	12	0	0	1	0	0	5	0	0	2	0	0	0	0	0	0	0	0
IIa	ANF	3d	TR1	none	FRA	1111	310	0.22	1144	20	0.02	1437	0	0	1239	0	0	1769	7	0	1820	0	0	1820	0	0	292	3	0.01	910	0	0
IIa	ANF	3d	TR1	NONE	IRL	83	28	0.25	65	25	0.28	138	4	0.03	189	0	0	234	30	0.11	196	6	0.03	0	0	0			0			0
IIa	ANF	3d	TR1	none	NIR	5	16	0.76	2	1	0.33	1	0	0	0	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0
IIa	ANF	3d	TR1	none	SCO	535	588	0.52	652	268	0.29	850	18	0.02	756	0	0	862	79	0.08	986	21	0.02			0			0			0
IIa	ANF	3d	TR2	CPart11	SCO			0			0			0			0			0			0			0	0	0	0	0	0	0
IIa	ANF	3d	TR2	CPart13	SCO			0			0			0			0			0			0	67	0	0	40	0	0	51	0	0
IIa	ANF	3d	TR2	NONE	BEL			0			0			0	0	0	0			0			0			0			0			0
IIa	ANF	3d	TR2	none	ENG	4	17	0.81	6	3	0.33	6	0	0	6	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0
IIa	ANF	3d	TR2	none	FRA	27	0	0	12	0	0			0			0	0	0	0	3	0	0	3	0	0			0			0
IIa	ANF	3d	TR2	none	IOM			0			0			0	0	0	0			0			0			0			0			0
IIa	ANF	3d	TR2	NONE	IRL	230	124	0.35	147	125	0.46	219	17	0.07	206	0	0	231	49	0.18	102	5	0.05	15	0	0	0	0	0	8	0	0
IIa	ANF	3d	TR2	none	NIR	3	7	0.7	5	4	0.44	3	0	0	11	0	0	15	2	0.12	3	0	0	1	0	0	2	0	0	3	0	0
IIa	ANF	3d	TR2	none	NLD			0			0			0			0			0			0			0			0	0	0	0
IIa	ANF	3d	TR2	none	SCO	162	45	0.22	174	38	0.18	100	0	0	191	0	0	205	8	0.04	105	1	0.01			0			0			0
IIa	ANF	3d	TR3	none	DNK	0	0	0	0	0	0			0			0			0			0			0			0			0
IIa	ANF	3d	TR3	NONE	IRL	0	0	0			0	0	0	0			0	0	0	0	1	0	0			0			0	0	0	0
IIa	COD	3d	BT1	none	SCO	2	0	0	6	0	0	1	0	0	0	0	0			0			0			0			0			0
IIa	COD	3d	BT2	none	ENG	0	0	0			0			0			0			0			0			0			0			0
IIa	COD	3d	GN1	none	ENG			0			0			0	0	0	0			0			0			0			0			0
IIa	COD	3d	GN1	none	FRA	6	0	0	0	0	0	6	0	0	9	0	0	10	0	0	5	0	0	5	0	0	3	0	0	3	0	0
IIa	COD	3d	GN1	NONE	IRL	0	0	0	1	0	0			0			0	4	0	0	5	0	0	1	0	0	0	0	0	1	0	0
IIa	COD	3d	LL1	none	ENG	6	0	0	2	0	0	3	0	0	6	0	0	6	0	0			0			0			0			0
IIa	COD	3d	LL1	none	FRA			0			0			0	6	0	0	0	0	0	0	0	0	0	0	0			0			0
IIa	COD	3d	LL1	NONE	IRL			0			0			0			0			0			0			0	0	0	0			0
IIa	COD	3d	LL1	none	SCO	3	0	0	3	0	0	2	0	0	2	0	0	2	0	0			0			0			0			0
IIa	COD	3d	TR1	CPART11	IRL			0			0			0			0			0			0			0			0	6	0	0
IIa	COD	3d	TR1	CPart13	DEU			0			0			0			0			0			0			0	0	0	0			0
IIa	COD	3d	TR1	CPART13	IRL			0			0			0			0			0			0	21	1	0.05	49	0	0	32	1	0.03

Table 5.4.2.1 continued. West of Scotland. Landings (t), discards (t) and relative discard rates by species (ANF, COD, HAD, HKE, NEP, PLE, POK, SOL, WHG) and derogation existing in Table 1 of Annex IIA of Coun. Reg. (EU) 43/2012 and (EU) 44/2012, 2003-2011.

ANNEX	SPECIES	REG_AREA	REG_GEAR	SPECON	COUNTRY	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
IIa	COD	3d	TR1	CPart13	SCO			0			0			0			0			0			0	97	609	0.86	110	463	0.81	100	1103	0.92
IIa	COD	3d	TR1	none	DEU	0	0	0			0	0	0	0	2	2	0.5	2	8	0.8	1	2	0.67	0	0	0	0	0	0			0
IIa	COD	3d	TR1	none	ENG	84	0	0	19	0	0	7	0	0	9	11	0.55	1	1	0.5	4	12	0.75	4	0	0	1	1	0.5	2	0	0
IIa	COD	3d	TR1	none	FRA	162	3	0.02	87	7	0.07	101	0	0	88	84	0.49	83	152	0.65	82	289	0.78	82	0	0	47	133	0.74	38	1	0.03
IIa	COD	3d	TR1	NONE	IRL	29	5	0.15	3	1	0.25	10	1	0.09	7	11	0.61	39	2	0.05	37	7	0.16	0	0	0			0			0
IIa	COD	3d	TR1	none	NIR	43	0	0	33	0	0	21	0	0	7	6	0.46	6	22	0.79	5	10	0.67	8	0	0	1	269	1			0
IIa	COD	3d	TR1	none	SCO	720	5	0.01	337	7	0.02	298	3	0.01	274	263	0.49	226	566	0.71	203	571	0.74			0			0			0
IIa	COD	3d	TR2	CPart11	SCO			0			0			0			0			0			0			0	0	17	1	0	12	1
IIa	COD	3d	TR2	CPart13	SCO			0			0			0			0			0			0	7	47	0.87	5	0	0	7	86	0.92
IIa	COD	3d	TR2	none	ENG	2	0	0	2	0	0	1	0	0	1	0	0	1	1	0.5	2	0	0	0	0	0	0	0	0	0	0	0
IIa	COD	3d	TR2	none	FRA	1	0	0	0	0	0			0			0			0			0			0			0			0
IIa	COD	3d	TR2	none	IOM			0			0			0	0	1	1			0			0			0			0			0
IIa	COD	3d	TR2	NONE	IRL	91	22	0.19	29	4	0.12	18	5	0.22	11	156	0.93	27	3	0.1	17	9	0.35	2	0	0	0	0	0	1	0	0
IIa	COD	3d	TR2	none	NIR	6	0	0	6	2	0.25	2	0	0	4	15	0.79	7	15	0.68	3	6	0.67	1	0	0	1	0	0	1	0	0
IIa	COD	3d	TR2	none	NLD			0			0			0			0			0			0			0			0	0	0	0
IIa	COD	3d	TR2	none	SCO	146	16	0.1	52	32	0.38	25	27	0.52	19	59	0.76	30	125	0.81	25	7	0.22			0			0			0
IIa	COD	3d	TR3	NONE	IRL	0	0	0			0	0	0	0			0	0	0	0	0	0	0			0			0	0	0	0
IIa	HAD	3d	BT1	none	SCO	1	0	0	7	0	0	1	0	0	1	0	0	0	0	0			0			0			0			0
IIa	HAD	3d	BT2	NONE	BEL	0	0	0	0	0	0	0	0	0			0			0			0			0			0			0
IIa	HAD	3d	BT2	none	ENG			0	0	0	0			0			0			0			0			0			0			0
IIa	HAD	3d	BT2	NONE	IRL			0	0	0	0	0	0	0			0			0			0			0			0			0
IIa	HAD	3d	GN1	none	FRA	2	0	0			0	3	0	0	6	0	0	10	0	0	16	0	0	16	0	0	8	0	0	9	0	0
IIa	HAD	3d	GN1	NONE	IRL	1	0	0	0	0	0			0			0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
IIa	HAD	3d	LL1	none	ENG	0	0	0	1	0	0	2	0	0	3	0	0	0	0	0			0			0			0			0
IIa	HAD	3d	LL1	none	FRA			0			0			0			0	2	0	0	0	0	0	0	0	0			0	0	0	0
IIa	HAD	3d	LL1	NONE	IRL			0	0	0	0	0	0	0			0			0			0			0			0			0
IIa	HAD	3d	LL1	none	SCO	1	0	0	0	0	0	3	0	0	2	0	0	2	0	0			0			0			0			0
IIa	HAD	3d	TR1	CPART11	IRL			0			0			0			0			0			0			0			0	156	28	0.15
IIa	HAD	3d	TR1	CPart13	DEU			0			0			0			0			0			0			0	0	0	0			0
IIa	HAD	3d	TR1	CPART13	IRL			0			0			0			0			0			0	286	7	0.02	399	9	0.02	124	45	0.27
IIa	HAD	3d	TR1	CPart13	SCO			0			0			0			0			0			0	2321	1648	0.42	2387	200	0.08	1288	139	0.1
IIa	HAD	3d	TR1	none	DEU			0			0	1	0	0	7	5	0.42	0	0	0	1	0	0	0	0	0	1	0	0			0
IIa	HAD	3d	TR1	none	ENG	84	65	0.44	55	28	0.34	42	17	0.29	11	11	0.5	1	0	0	1	0	0	3	0	0	2	0	0	0	0	0
IIa	HAD	3d	TR1	none	FRA	175	148	0.46	162	225	0.58	266	120	0.31	266	262	0.5	160	151	0.49	104	50	0.32	104	0	0	55	0	0	39	0	0
IIa	HAD	3d	TR1	NONE	IRL	73	209	0.74	31	232	0.88	33	76	0.7	421	475	0.53	609	93	0.13	772	44	0.05	0	0	0			0			0
IIa	HAD	3d	TR1	none	NIR	24	17	0.41	37	35	0.49	30	12	0.29	8	5	0.38	173	180	0.51	62	40	0.39	4	0	0	1	0	0	0	0	0
IIa	HAD	3d	TR1	none	SCO	4168	3155	0.43	2506	1997	0.44	2592	1126	0.3	4803	4131	0.46	2475	2290	0.48	1587	568	0.26			0			0			0
IIa	HAD	3d	TR2	CPart11	SCO			0			0			0			0			0			0			0			0	1	0	0
IIa	HAD	3d	TR2	CPart13	SCO			0			0			0			0			0			0	43	31	0.42	20	2547	0.99	70	1075	0.94
IIa	HAD	3d	TR2	none	ENG	2	5	0.71	7	31	0.82	2	7	0.78	3	10	0.77	0	0	0	2	1	0.33	0	0	0			0	0	0	0
IIa	HAD	3d	TR2	none	FRA	0	1	1	2	5	0.71			0			0	0	0	0	0	0	0	0	0	0			0			0
IIa	HAD	3d	TR2	none	IOM			0			0			0	0	0	0			0			0			0			0			0
IIa	HAD	3d	TR2	NONE	IRL	405	1437	0.78	160	1262	0.89	119	306	0.72	105	508	0.83	151	151	0.5	110	54	0.33	8	0	0	0	0	0	5	2	0.29
IIa	HAD	3d	TR2	none	NIR	17	47	0.73	31	173	0.85	16	92	0.85	20	95	0.83	19	24	0.56	17	14	0.45	6	0	0	4	188	0.98	4	4	0.5
IIa	HAD	3d	TR2	none	NLD			0			0			0			0			0			0			0			0	0	0	0
IIa	HAD	3d	TR2	none	SCO	402	827	0.67	304	931	0.75	102	805	0.89	80	346	0.81	100	295	0.75	106	241	0.69			0			0			0
IIa	HAD	3d	TR3	none	DNK	0	0	0	0	0	0			0			0			0			0			0			0			0
IIa	HAD	3d	TR3	NONE	IRL	0	1	1			0	0	0	0			0	0	0	0	0	1	1			0			0	0	0	0
IIa	HAD	3d	TR3	none	NIR			0	0	0	0			0			0			0			0			0			0			0
IIa	HAD	3d	TR3	none	SCO			0	1	0	0			0			0			0			0			0			0			0

Table 5.4.2.1 continued. West of Scotland. Landings (t), discards (t) and relative discard rates by species (ANF, COD, HAD, HKE, NEP, PLE, POK, SOL, WHG) and derogation existing in Table 1 of Annex IIA of Coun. Reg. (EU) 43/2012 and (EU) 44/2012, 2003-2011.

ANNEX	SPECIES	REG_AREA	REG_GEAR	SPECON	COUNTRY	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
IIa	HKE	3d	BT1	none	SCO			0	0	0	0	0	0	0	0	0	0			0			0			0			0			0
IIa	HKE	3d	BT2	NONE	BEL			0	0	0	0			0			0			0			0			0			0			0
IIa	HKE	3d	BT2	NONE	IRL			0			0			0	0	0	0			0			0			0			0			0
IIa	HKE	3d	GN1	none	FRA	11	0	0	12	0	0	32	0	0	115	0	0	329	0	0	1122	0	0	1122	0	0	1014	0	0	1246	15	0.01
IIa	HKE	3d	GN1	NONE	IRL	1	0	0	2	0	0			0	0	0	0	9	0	0	1	0	0	1	0	0	3	0	0	0	0	0
IIa	HKE	3d	LL1	none	ENG	91	0	0	118	0	0	0	0	0	22	0	0	314	0	0	34	0	0			0			0			0
IIa	HKE	3d	LL1	none	FRA			0			0			0	253	0	0	675	0	0	334	0	0	334	0	0	432	0	0	528	0	0
IIa	HKE	3d	LL1	none	SCO	53	0	0	189	0	0	699	0	0	851	0	0	950	0	0	561	0	0	1716	0	0	1936	0	0	2840	0	0
IIa	HKE	3d	TR1	CPART11	IRL			0			0			0			0			0			0			0			0	41	94	0.7
IIa	HKE	3d	TR1	CPART13	IRL			0			0			0			0			0			0	361	50	0.12	492	224	0.31	207	154	0.43
IIa	HKE	3d	TR1	CPart13	SCO			0			0			0			0			0			0	285	40	0.12	383	244	0.39	482	1197	0.71
IIa	HKE	3d	TR1	none	DEU			0			0	0	0	0	0	0	0	4	0	0	0	0	0			0			0			0
IIa	HKE	3d	TR1	none	ENG	10	53	0.84	18	49	0.71	20	29	0.59	16	0	0	3	2	0.4	7	2	0.22	1	0	0	1	0	0	2	0	0
IIa	HKE	3d	TR1	none	FRA	149	87	0.37	294	25	0.08	745	40	0.05	588	0	0	667	49	0.07	1061	9	0.01	1061	0	0	1635	0	0	1120	150	0.12
IIa	HKE	3d	TR1	NONE	IRL	19	56	0.75	30	71	0.7	32	51	0.61	38	0	0	146	121	0.45	195	104	0.35	0	0	0			0			0
IIa	HKE	3d	TR1	none	NIR	40	335	0.89	54	140	0.72	32	56	0.64	9	0	0	10	6	0.38	18	8	0.31	18	0	0	17	0	0	1	0	0
IIa	HKE	3d	TR1	none	SCO	122	380	0.76	248	216	0.47	301	228	0.43	269	0	0	264	104	0.28	383	126	0.25			0			0			0
IIa	HKE	3d	TR2	CPart11	SCO			0			0			0			0			0			0			0	0	0	0	0	0	0
IIa	HKE	3d	TR2	CPart13	SCO			0			0			0			0			0			0	43	0	0	23	0	0	25	0	0
IIa	HKE	3d	TR2	none	ENG	1	4	0.8	3	13	0.81	5	12	0.71	3	0	0	0	0	0	1	1	0.5	0	0	0			0	0	0	0
IIa	HKE	3d	TR2	none	FRA	5	0	0	6	0	0			0			0	0	0	0	2	0	0	2	2	0.5			0			0
IIa	HKE	3d	TR2	none	IOM			0			0			0	0	0	0			0			0			0			0			0
IIa	HKE	3d	TR2	NONE	IRL	59	245	0.81	71	350	0.83	74	194	0.72	94	0	0	53	196	0.79	52	100	0.66	4	2	0.33	2	1	0.33	8	6	0.43
IIa	HKE	3d	TR2	none	NIR	10	45	0.82	10	64	0.86	6	15	0.71	7	0	0	13	39	0.75	5	9	0.64	2	0	0	4	3	0.43	3	4	0.57
IIa	HKE	3d	TR2	none	SCO	43	44	0.51	91	123	0.57	64	29	0.31	64	0	0	43	31	0.42	40	26	0.39			0			0			0
IIa	HKE	3d	TR3	NONE	IRL	0	0	0			0	0	0	0			0	0	0	0	1	2	0.67			0			0	0	1	1
IIa	NEP	3d	BT1	none	SCO	2	0	0			0			0			0			0			0			0			0			0
IIa	NEP	3d	GN1	NONE	IRL	0	0	0	1	0	0			0			0			0			0			0			0			0
IIa	NEP	3d	LL1	none	ENG			0	0	0	0			0			0			0			0			0			0			0
IIa	NEP	3d	LL1	NONE	IRL			0			0			0			0			0			0			0			0	0	0	0
IIa	NEP	3d	TR1	CPART11	IRL			0			0			0			0			0			0			0			0	5	0	0
IIa	NEP	3d	TR1	CPart11	SCO			0			0			0			0			0			0			0	84	0	0	50	0	0
IIa	NEP	3d	TR1	CPART13	IRL			0			0			0			0			0			0	86	0	0	27	0	0	13	0	0
IIa	NEP	3d	TR1	CPart13	SCO			0			0			0			0			0			0	336	0	0	285	0	0	322	0	0
IIa	NEP	3d	TR1	none	ENG	2	0	0	0	0	0	0	0	0	0	0	0			0			0			0			0			0
IIa	NEP	3d	TR1	none	FRA	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0			0
IIa	NEP	3d	TR1	NONE	IRL	15	0	0	7	0	0	10	0	0	3	0	0	21	0	0	7	0	0			0			0			0
IIa	NEP	3d	TR1	none	NIR	0	0	0			0	2	0	0	4	0	0			0	4	0	0	24	0	0	1	0	0			0
IIa	NEP	3d	TR1	none	SCO	389	0	0	189	0	0	355	0	0	514	0	0	493	0	0	459	0	0			0			0			0
IIa	NEP	3d	TR2	CPart11	SCO			0			0			0			0			0			0			0	1679	0	0	1748	0	0
IIa	NEP	3d	TR2	CPart13	SCO			0			0			0			0			0			0	8545	0	0	5600	0	0	5974	0	0
IIa	NEP	3d	TR2	none	ENG	143	0	0	91	0	0	83	0	0	115	0	0	148	0	0	203	0	0	41	0	0	33	0	0	70	0	0
IIa	NEP	3d	TR2	none	FRA	0	0	0	0	0	0			0			0			0			0			0			0			0
IIa	NEP	3d	TR2	none	IOM			0			0			0			0			0	1	0	0			0			0			0
IIa	NEP	3d	TR2	NONE	IRL	124	0	0	139	0	0	143	0	0	127	0	0	134	0	0	39	0	0	6	0	0	3	0	0	12	0	0
IIa	NEP	3d	TR2	none	NIR	516	0	0	690	0	0	710	0	0	1039	0	0	1895	0	0	1752	0	0	1138	0	0	1875	0	0	2373	0	0
IIa	NEP	3d	TR2	none	NLD			0			0			0			0			0			0			0			0	4	0	0
IIa	NEP	3d	TR2	none	SCO	7282	0	0	6906	0	0	6796	0	0	9052	0	0	10718	0	0	10000	0	0			0			0			0
IIa	NEP	3d	TR3	NONE	IRL			0			0			0			0			0	1	0	0			0			0			0
IIa	NEP	3d	TR3	none	NIR			0	1	0	0			0			0			0			0			0			0			0
IIa	NEP	3d	TR3	none	SCO			0			0	0	0	0			0	1	0	0			0			0			0			0

Table 5.4.2.1 continued. West of Scotland. Landings (t), discards (t) and relative discard rates by species (ANF, COD, HAD, HKE, NEP, PLE, POK, SOL, WHG) and derogation existing in Table 1 of Annex IIA of Coun. Reg. (EU) 43/2012 and (EU) 44/2012, 2003-2011.

ANNEX	SPECIES	REG_AREA	REG_GEAR	SPECON	COUNTRY	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
IIa	PLE	3d	BT1	none	SCO	42	0	0	10	0	0	9	0	0	0	0	0			0			0			0			0			0
IIa	PLE	3d	BT2	none	ENG	1	0	0	0	0	0			0			0			0			0			0			0			0
IIa	PLE	3d	BT2	NONE	IRL			0	3	0	0	0	0	0	0	0	0			0			0			0			0			0
IIa	PLE	3d	GN1	NONE	IRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0			0			0			0
IIa	PLE	3d	TR1	CPART11	IRL			0			0			0			0			0			0			0			0	2	5	0.71
IIa	PLE	3d	TR1	CPART13	IRL			0			0			0			0			0			0	9	2	0.18	24	4	0.14	9	8	0.47
IIa	PLE	3d	TR1	CPart13	SCO			0			0			0			0			0			0	32	8	0.2	26	3	0.1	23	27	0.54
IIa	PLE	3d	TR1	none	DEU			0			0			0			0	0	0	0			0			0			0			0
IIa	PLE	3d	TR1	none	ENG	1	5	0.83	1	21	0.95	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IIa	PLE	3d	TR1	none	FRA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IIa	PLE	3d	TR1	NONE	IRL	10	38	0.79	3	70	0.96	3	6	0.67	2	0	0	7	17	0.71	6	2	0.25	0	0	0			0			0
IIa	PLE	3d	TR1	none	NIR	4	31	0.89	3	39	0.93	1	22	0.96	0	0	0	1	0	0	0	0	0			0			0			0
IIa	PLE	3d	TR1	none	SCO	184	906	0.83	100	671	0.87	32	90	0.74	34	0	0	38	118	0.76	26	9	0.26			0			0			0
IIa	PLE	3d	TR2	CPart13	SCO			0			0			0			0			0			0	2	0	0	4	0	0	6	0	0
IIa	PLE	3d	TR2	none	ENG	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0
IIa	PLE	3d	TR2	none	FRA	2	2	0.5	1	0	0			0			0			0			0			0			0			0
IIa	PLE	3d	TR2	none	IOM			0			0			0	0	0	0			0			0			0			0			0
IIa	PLE	3d	TR2	NONE	IRL	130	176	0.58	48	362	0.88	39	23	0.37	24	0	0	24	27	0.53	8	2	0.2	0	0	0	0	0	0	1	0	0
IIa	PLE	3d	TR2	none	NIR	1	0	0	1	3	0.75	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0
IIa	PLE	3d	TR2	none	NLD			0			0			0			0			0			0			0			0	0	0	0
IIa	PLE	3d	TR2	none	SCO	23	8	0.26	19	20	0.51	13	1	0.07	9	0	0	6	2	0.25	4	2	0.33			0			0			0
IIa	PLE	3d	TR3	none	DNK	0	0	0			0			0			0			0			0			0			0			0
IIa	PLE	3d	TR3	NONE	IRL	0	0	0			0	0	0	0			0	0	0	0	0	0	0			0			0	0	0	0
IIa	POK	3d	BT1	none	FRA			0	0	0	0			0			0			0			0			0			0			0
IIa	POK	3d	BT1	none	SCO	0	0	0	6	0	0			0	2	0	0	1	0	0			0			0			0			0
IIa	POK	3d	GN1	none	ENG	0	0	0	0	0	0			0			0			0			0			0			0			0
IIa	POK	3d	GN1	none	FRA	15	0	0			0	3	0	0	65	0	0	270	0	0	369	0	0	369	0	0	289	0	0	250	16	0.06
IIa	POK	3d	GN1	NONE	IRL	7	0	0	0	0	0			0	3	0	0	10	0	0	1	0	0	1	0	0	1	0	0	1	0	0
IIa	POK	3d	LL1	none	ENG	2	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0			0			0			0
IIa	POK	3d	LL1	none	FRA			0			0			0	0	0	0	4	0	0	2	0	0	2	0	0	1	0	0	2	0	0
IIa	POK	3d	LL1	NONE	IRL			0			0			0			0			0			0			0	1	0	0	2	0	0
IIa	POK	3d	LL1	none	NIR			0			0	0	0	0			0			0			0			0			0			0
IIa	POK	3d	LL1	none	SCO	0	0	0	1	0	0	4	0	0	6	0	0	12	0	0	4	0	0	2	0	0			0	2	0	0
IIa	POK	3d	TR1	CPART11	IRL			0			0			0			0			0			0			0			0	187	7	0.04
IIa	POK	3d	TR1	CPart13	DEU			0			0			0			0			0			0			0	2	0	0			0
IIa	POK	3d	TR1	CPART13	IRL			0			0			0			0			0			0	294	1	0	449	2	0	138	11	0.07
IIa	POK	3d	TR1	CPart13	SCO			0			0			0			0			0			0	2852	14	0	2784	436	0.14	4112	852	0.17
IIa	POK	3d	TR1	none	DEU	54	127	0.7			0	373	375	0.5	542	239	0.31	606	137	0.18	153	8	0.05	302	0	0	273	0	0			0
IIa	POK	3d	TR1	none	ENG	280	549	0.66	143	24	0.14	449	678	0.6	340	172	0.34	94	22	0.19	14	1	0.07	114	0	0	42	0	0	74	0	0
IIa	POK	3d	TR1	none	FRA	3478	5329	0.61	3043	601	0.16	4073	3124	0.43	6079	2901	0.32	4131	886	0.18	2791	1172	0.3	2790	0	0	1336	0	0	1466	3	0
IIa	POK	3d	TR1	NONE	IRL	39	15	0.28	15	3	0.17	52	67	0.56	80	48	0.38	137	49	0.26	79	2	0.02	0	0	0			0			0
IIa	POK	3d	TR1	none	NIR	25	53	0.68	12	3	0.2	2	2	0.5	0	0	0	0	0	0	2	1	0.33	0	0	0	0	0	0	0	0	0
IIa	POK	3d	TR1	none	SCO	1064	1869	0.64	1264	246	0.16	1274	1459	0.53	2188	1280	0.37	1109	363	0.25	2613	1032	0.28			0			0			0
IIa	POK	3d	TR2	CPart13	SCO			0			0			0			0			0			0	2	0	0	1	1	0.5	2	6	0.75
IIa	POK	3d	TR2	none	ENG			0	0	0	0	1	11	0.92	0	0	0			0			0			0			0			0
IIa	POK	3d	TR2	none	FRA	0	0	0	2	3	0.6			0			0			0	14	0	0	16	0	0			0			0
IIa	POK	3d	TR2	NONE	IRL	69	64	0.48	23	17	0.42	24	257	0.91	9	242	0.96	4	78	0.95	3	2	0.4	1	0	0	0	0	0	1	0	0
IIa	POK	3d	TR2	none	NIR	1	1	0.5	0	1	1	0	0	0	0	0	0	0	1	1	0	2	1			0	0	0	0	0	0	0
IIa	POK	3d	TR2	none	SCO	16	45	0.74	14	29	0.67	5	11	0.69	2	37	0.95	3	9	0.75	1	155	0.99			0			0			0
IIa	POK	3d	TR3	NONE	IRL	0	0	0			0	0	0	0			0	0	0	0	0	0	0			0			0	0	0	0

Table 5.4.2.1 continued. West of Scotland. Landings (t), discards (t) and relative discard rates by species and derogation existing in Table 1 of Annex IIA of Coun. Reg. (EU) 43/2012 and (EU) 44/2012, 2003-2011.

ANNEX	SPECIES	REG_AREA	REG_GEAR	SPECON	COUNTRY	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
IIa	SOL	3d	BT1	none	SCO	0	0	0			0			0			0			0			0			0			0			0
IIa	SOL	3d	BT2	none	ENG	5	0	0	1	0	0			0			0			0			0			0			0			0
IIa	SOL	3d	BT2	NONE	IRL			0	1	0	0	0	0	0	0	0	0			0			0			0			0			0
IIa	SOL	3d	GN1	NONE	IRL	0	0	0	0	0	0	0	0	0	0	0	0			0			0			0			0			0
IIa	SOL	3d	TR1	CPART11	IRL			0			0			0			0			0			0			0			0	0	0	0
IIa	SOL	3d	TR1	CPart11	SCO			0			0			0			0			0			0			0	0	0	0			0
IIa	SOL	3d	TR1	CPART13	IRL			0			0			0			0			0			0	2	0	0	22	0	0	9	0	0
IIa	SOL	3d	TR1	CPart13	SCO			0			0			0			0			0			0	0	0	0	0	0	0			0
IIa	SOL	3d	TR1	none	ENG	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
IIa	SOL	3d	TR1	none	FRA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
IIa	SOL	3d	TR1	NONE	IRL	0	1	1	1	1	0.5	1	0	0	0	0	0	2	3	0.6	2	0	0			0			0			0
IIa	SOL	3d	TR1	none	NIR	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
IIa	SOL	3d	TR1	none	SCO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0			0			0
IIa	SOL	3d	TR2	CPart11	SCO			0			0			0			0			0			0			0			0	0	0	0
IIa	SOL	3d	TR2	CPart13	SCO			0			0			0			0			0			0	1	0	0	0	0	0	2	0	0
IIa	SOL	3d	TR2	none	ENG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0			0			0
IIa	SOL	3d	TR2	none	FRA	5	0	0	0	0	0			0			0			0			0			0			0			0
IIa	SOL	3d	TR2	none	IOM			0			0			0	0	0	0			0			0			0			0			0
IIa	SOL	3d	TR2	NONE	IRL	23	2	0.08	17	3	0.15	14	0	0	11	0	0	18	5	0.22	10	0	0	0	0	0	0	0	0	0	1	0	0
IIa	SOL	3d	TR2	none	NIR	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0
IIa	SOL	3d	TR2	none	SCO	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	2	0	0			0			0			0
IIa	SOL	3d	TR3	NONE	IRL	0	0	0			0			0			0	0	0	0	0	0	0			0			0			0
IIa	WHG	3d	BT1	none	SCO	0	0	0			0			0	0	0	0			0			0			0			0			0
IIa	WHG	3d	BT2	NONE	BEL			0	0	0	0			0			0			0			0			0			0			0
IIa	WHG	3d	BT2	none	ENG	0	0	0	0	0	0			0			0			0			0			0			0			0
IIa	WHG	3d	GN1	none	FRA	0	0	0			0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0
IIa	WHG	3d	GN1	NONE	IRL			0	1	0	0	0	0	0			0			0			0			0	0	0	0			0
IIa	WHG	3d	LL1	none	ENG	0	0	0			0	0	0	0			0			0			0			0			0			0
IIa	WHG	3d	TR1	CPART11	IRL			0			0			0			0			0			0			0			0	85	9	0.1
IIa	WHG	3d	TR1	CPART13	IRL			0			0			0			0			0			0	125	6	0.05	101	15	0.13	61	15	0.2
IIa	WHG	3d	TR1	CPart13	SCO			0			0			0			0			0			0	328	746	0.69	242	858	0.78	66	29	0.31
IIa	WHG	3d	TR1	none	DEU			0			0	0	0	0	0	0	0	1	0	0			0			0			0			0
IIa	WHG	3d	TR1	none	ENG	3	1	0.25	1	2	0.67	2	2	0.5	2	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
IIa	WHG	3d	TR1	none	FRA	4	4	0.5	2	7	0.78	6	17	0.74	6	1	0.14	1	1	0.5	1	0	0	1	0	0	0	0	0	0	0	0
IIa	WHG	3d	TR1	NONE	IRL	57	140	0.71	96	115	0.55	27	27	0.5	36	6	0.14	35	31	0.47	29	9	0.24	0	0	0			0			0
IIa	WHG	3d	TR1	none	NIR	28	15	0.35	9	155	0.95	1	2	0.67	1	0	0	17	11	0.39	8	1	0.11	0	0	0	0	0	0	0	0	0
IIa	WHG	3d	TR1	none	SCO	597	345	0.37	328	1230	0.79	96	195	0.67	140	55	0.28	361	72	0.17	316	26	0.08			0			0			0
IIa	WHG	3d	TR2	CPart13	SCO			0			0			0			0			0			0	25	57	0.7	3	12	0.8	12	240	0.95
IIa	WHG	3d	TR2	none	ENG	1	1	0.5	1	3	0.75	0	0	0	0	1	1	0	1	1	2	1	0.33			0			0			0
IIa	WHG	3d	TR2	none	FRA	2	14	0.88	1	20	0.95			0			0			0			0			0			0			0
IIa	WHG	3d	TR2	NONE	IRL	506	761	0.6	256	619	0.71	145	121	0.45	160	6050	0.97	22	49	0.69	40	51	0.56	0	0	0	0	0	0	0	1	1
IIa	WHG	3d	TR2	none	NIR	4	6	0.6	4	34	0.89	1	1	0.5	1	11	0.92	3	8	0.73	1	0	0	0	0	0	2	0	0	1	2	0.67
IIa	WHG	3d	TR2	none	NLD			0			0			0			0			0			0			0			0	0	0	0
IIa	WHG	3d	TR2	none	SCO	148	1131	0.88	106	1132	0.91	57	542	0.9	86	548	0.94	44	169	0.79	42	83	0.66			0			0			0
IIa	WHG	3d	TR3	none	DNK	0	0	0	0	0	0			0			0			0			0			0			0			0
IIa	WHG	3d	TR3	NONE	IRL	0	0	0			0	0	0	0			0	0	0	0	0	0	0			0			0	0	0	0
IIa	WHG	3d	TR3	none	SCO			0	0	0	0			0			0			0			0			0			0			0

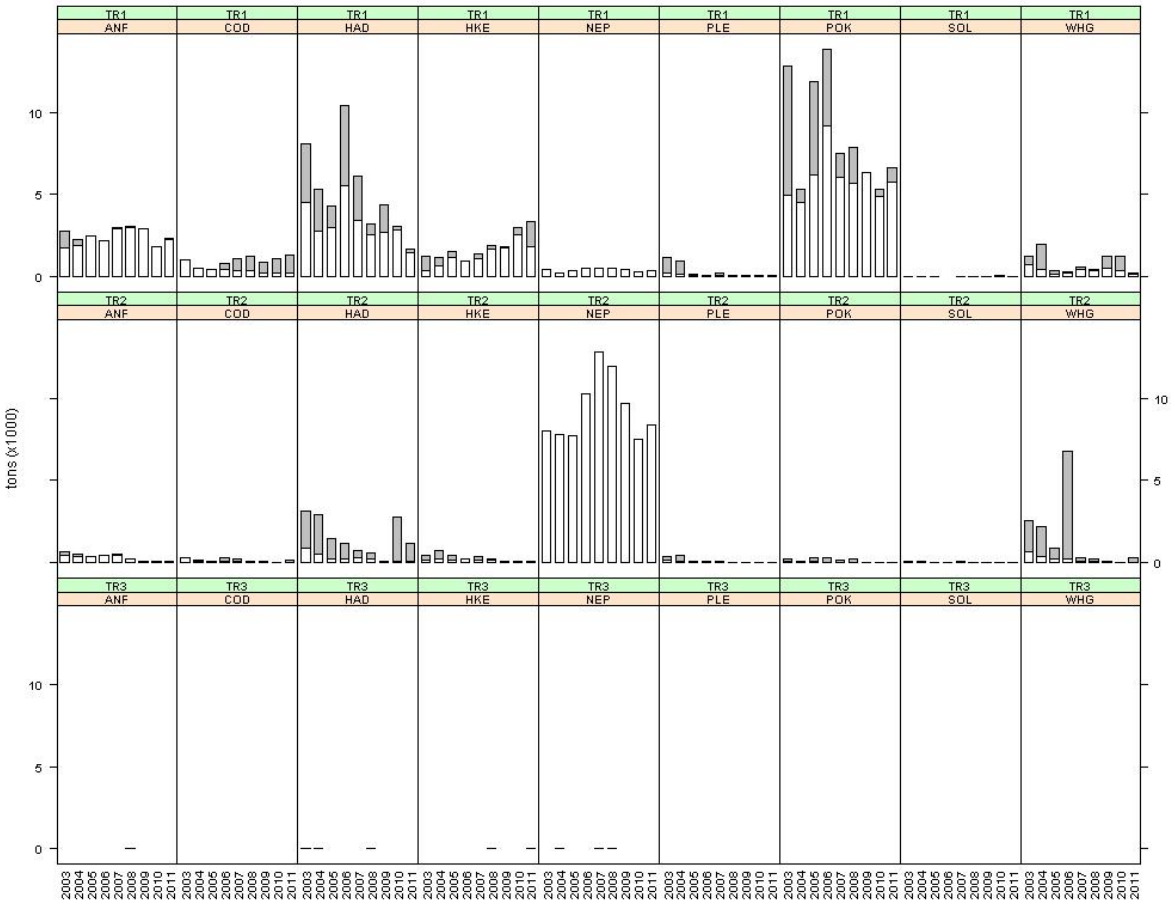


Figure 5.4.2.1 West of Scotland. Landings (t) and discards (t) by derogations in Coun. Reg. (EC) 1342/2008 and species, 2004-2011 (from left to right). White bars represent landings, grey bars discards. Note that discard data are only available for some species and gears. The lack of discard information for a given species/gear in this figure represents no information rather than zero discards.

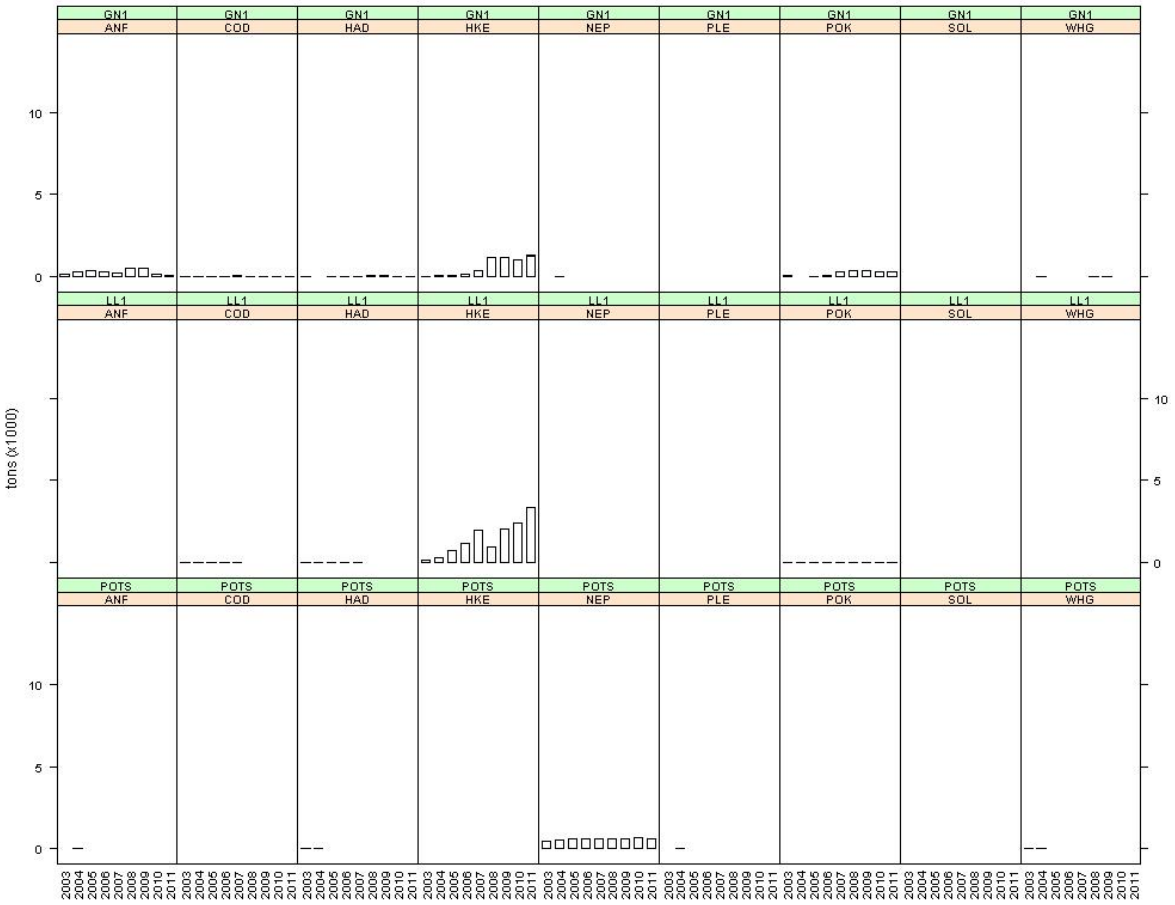


Figure 5.4.2.1 (cont) West of Scotland. Landings (t) and discard (t) by derogations in Coun. Reg. (EC) 1342/2008 (also POTS) and species, 2003-2011 (from left to right). White bars represent landings, grey bars discards. Note that discard data are only available for some species and gears. The lack of discard information for a given species/gear in this figure represents no information rather than zero discards.

5.4.3 ToR 1.d CPUE and LPUE of cod by fisheries and by Member States

Tables showing LPUE and CPUE by gear groups (regulated and unregulated), area and nation are not presented in this report but are available on the JRC website: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg12. Results aggregated across countries are presented below.

Table 5.4.3.1 shows cod catch per unit effort (CPUE), recorded in g/kWdays for all derogations within Coun. Reg (EC) 1342/2008 while table 5.4.3.2 shows landings per unit effort (LPUE) for the same derogations. Section 5.4.1 showed longlines to be the most significant gear category after trawl and seine gears west of Scotland but the tables show CPUE of cod for this gear type (LL1) to be low with no catch of cod recorded from 2008 onward.

Figures 5.4.3.1 to 5.4.3.2 show cod CPUE and LPUE respectively for the top four gear types under Coun. Reg (EC) 1342/2008, ranked in terms of average value over the years 2003-2011. It should be noted no discard information is available for gill nets (GN1) or the beam trawl categories (BT1 and BT2) such that results for these gear types are effectively LPUE in each table and/or figure. It is clear from Figure 5.4.3.1 that CPUE values have increased considerably for the TR1 gear type since 2005. ICES assessments have estimated the 2005 – and to a lesser extent the 2008 - year classes of cod to be large compared to the norm since 2000, and also a slow increase in SSB since 2006. The pattern of CPUE is consistent with the catchability of fish in the stronger year classes increasing as the fish grow in size (and possibly redistribute

from nursery areas) and an increase in overall stock abundance. TACs for cod have declined over the same period and from Figure 5.4.3.2 it can be seen LPUE for the TR1 gears remained constant between 2004-2008 and has fallen again to a new lower level for 2009-2011.

To illustrate the point further Figure 5.4.3.3 shows the ratio of catch to landings for cod for the gear type TR1. Up to 2005 very few discards of cod were recorded for the TR1 gear resulting in a catch/landings value close to 1. Since then this ratio has increased so that by 2011 catch was approximately 7 times landings. Figure 5.4.3.2 suggests the increase in CPUE to be due to the 2005 and 2008 year classes. This result is consistent with results from the ICES division VIa cod assessment. Uncertainty of discard observation data for the TR2 gear mean results for the TR2 gear have not been included in Figure 5.4.3.3.

Table 5.4.3.1 West of Scotland. Cod CPUE (g/(kW*days)) by derogation in Coun. Reg. (EU) 43/2012 and (EU) 44/2012 and year, 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR	SPECON	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	CPUE 2009-2011
IIa	COD	3d	BT1	none	32	36	8	0		0	0	0	0	0
IIa	COD	3d	BT2	none	0					0	0	0	0	0
IIa	COD	3d	GN1	none	8	2	15	57	50	14	10	9	11	10
IIa	COD	3d	LL1	none	18	8	8	17	6	0	0	0	0	0
IIa	COD	3d	TR1	CPART11	0	0	0	0	0	0	0	0	30	25
IIa	COD	3d	TR1	CPART13	0	0	0	0	0	0	262	203	508	312
IIa	COD	3d	TR1	none	78	45	48	99	145	175	21	129	19	57
IIa	COD	3d	TR2	CPART11	0	0	0	0	0	0	0	16	13	15
IIa	COD	3d	TR2	CPART13	0	0	0	0	0	0	12	1	36	15
IIa	COD	3d	TR2	none	39	19	14	47	35	11	4	1	2	2
IIa	COD	3d	TR3	none	0		0		0	0	0	0	0	0

Table 5.4.3.2 West of Scotland. Cod LPUE (g/(kW*days)) by derogation in Coun. Reg. (EC) 43/2012 and year, 2003-2011.

ANNEX	SPECIES	REG AREA	REG GEAR	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
IIa	COD	3d	BT1	none	32	36	8	0		0	0	0	0	0
IIa	COD	3d	BT2	none	0					0	0	0	0	0
IIa	COD	3d	GN1	none	8	2	15	57	50	14	10	9	9	10
IIa	COD	3d	LL1	none	18	8	8	17	6	0	0	0	0	0
IIa	COD	3d	TR1	CPART11	0	0	0	0	0	0	0	0	135	22
IIa	COD	3d	TR1	CPART13	0	0	0	0	0	0	42	52	43	49
IIa	COD	3d	TR1	none	77	44	47	50	47	48	21	14	11	18
IIa	COD	3d	TR2	CPART11	0	0	0	0	0	0	0	0	0	0
IIa	COD	3d	TR2	CPART13	0	0	0	0	0	0	2	1	3	2
IIa	COD	3d	TR2	none	34	13	8	6	11	8	4	1	2	2
IIa	COD	3d	TR3	none	0		0		0	0	0	0		0

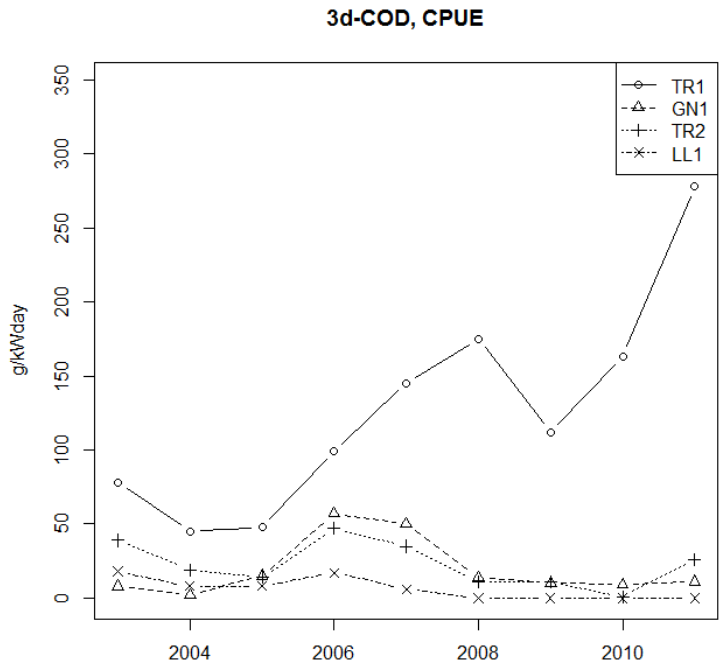


Figure 5.4.3.1 West of Scotland. Cod CPUE for the four gear categories with highest CPUE.

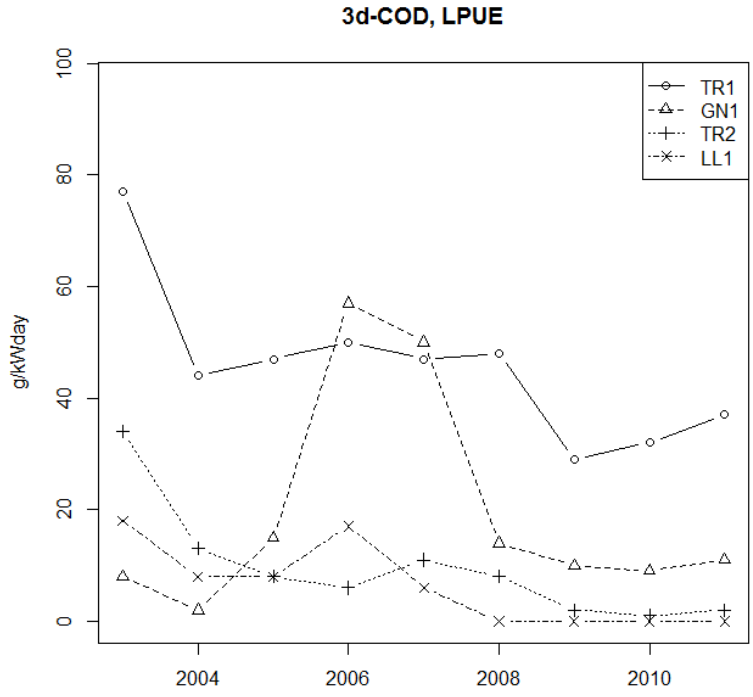


Figure 5.4.3.2 West of Scotland. Cod LPUE for the four gear categories with highest LPUE

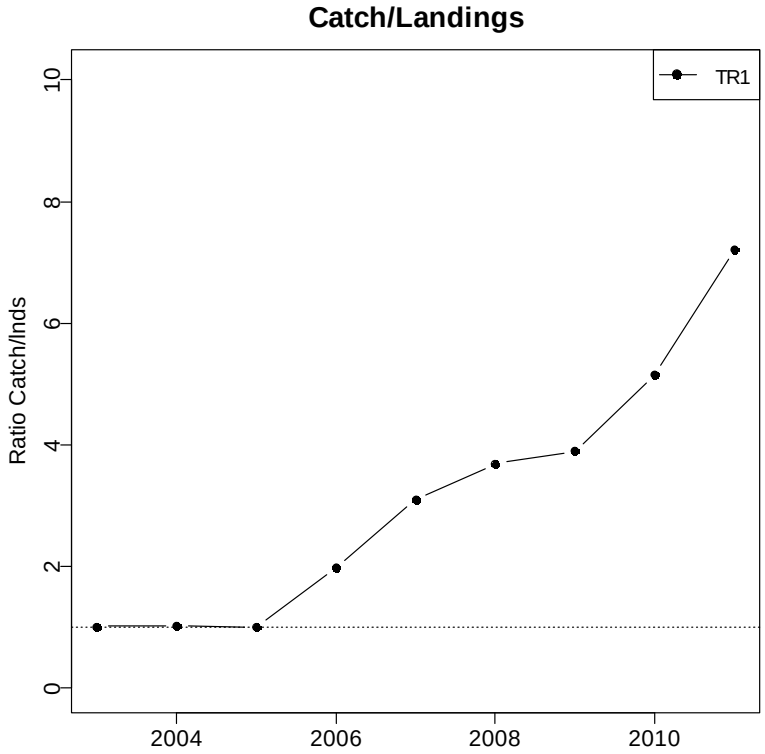


Figure 5.4.3.3 West of Scotland. Ratio of Cod catch to landings for the gear group TR1 under Coun. Reg. 1342/2008.

5.4.4 ToR 2 Rank regulated gear groups on the basis of catches expressed both in weight and in number of cod

Tables 5.4.4.1 and 5.4.4.2 show, respectively, cod catch and cod landings (tonnes) by gear types as specified in Coun. Reg. (EC) 1342/2008, ranked according to their 2011 values. From these Tables the most important category in terms of cod catch and landings is TR1 with a three year average of 94-95% of the VIa cod catch – and landings - total by weight. The second most important gear category is TR2, which from section 5.4.2 can be seen to be a gear category with Nephrops as the primary landed species. The ranking of these two gear types is consistent whether the 2011 values or a three year average is used but the contribution of TR2 gear to catches has noticeably declined starting in 2008 and to landings from 2009. The contribution to catch from all other gear types is less than 1%, but for landings gill nets contribute between 1 and 2%.

Ranking in terms of numbers of fish are available on the JRC website: http://stecf.jrc.ec.europa.eu/web/stecf/ewg06

EWG-12-12 notes that the estimation of ranking by numbers of fish uses only categories for which age information is available. Categories without any information about age compositions are disregarded.

Table 5.4.4.1 West of Scotland. Gear derogations (Coun. Reg. 43/2012) ranked according to relative cod catch in tonnes, 2003-2011. Ranking is according to the year 2011.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	Av 09-11
IIa	3d	COD	TR1	0.77	0.78006	0.82863	0.72529	0.82748	0.93928	0.92768	0.9917	0.928	0.95
IIa	3d	COD	TR2	0.21769	0.20095	0.14878	0.25285	0.15609	0.05304	0.06554	0.00554	0.06982	0.05
IIa	3d	COD	GN1	0.00462	0.00158	0.0113	0.00856	0.01046	0.00769	0.00678	0.00277	0.00218	0.00
IIa	3d	COD	TR3	0		0		0	0			0	0.00
IIa	3d	COD	LL1	0.00615	0.00791	0.00942	0.01331	0.00597	0	0	0		0.00
IIa	3d	COD	BT1	0.00154	0.00949	0.00188	0						
IIa	3d	COD	BT2	0									

Table 5.4.4.2 West of Scotland. Gear derogations (Coun. Reg. 43/2012) ranked according to relative cod landings in tonnes, 2003-2011. Ranking is according to the year 2011.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	Av 09-11
IIa	3d	COD	TR1	0.79103	0.82586	0.88259	0.86966	0.80449	0.85309	0.92544	0.95872	0.93443	0.94
IIa	3d	COD	TR2	0.19616	0.15345	0.09312	0.07865	0.14607	0.12113	0.04825	0.02752	0.04918	0.04
IIa	3d	COD	GN1	0.0048	0.00172	0.01215	0.02022	0.03146	0.02577	0.02632	0.01376	0.01639	0.02
IIa	3d	COD	TR3	0		0		0	0			0	0.00
IIa	3d	COD	LL1	0.00641	0.00862	0.01012	0.03146	0.01798	0	0	0		0.00
IIa	3d	COD	BT1	0.0016	0.01034	0.00202	0						
IIa	3d	COD	BT2	0									

5.4.5 ToR 3 Remarks on quality of catches and discard estimates

Spain has been allocated 2,460,000 kW*days for demersal fishing in ICES sub areas V and VI under the Western Waters regulation (Coun. Reg. (EC) 1415/2004). As no data has been supplied by Spain in relation to Annex IIA it is not possible to know whether any activity was conducted in Division VIa, and if so what species were caught.

Irish data was not disaggregated by mesh size before 2003. Irish vessels contribute to the effort total in management area 3d. According to the international data supplied this constitutes approximately 9-13% of overall effort in the region depending on year (see Table 5.4.1.1).

5.4.6 ToR 4 Information on small boats (<10m)

Activity by vessels <10m in area 3d (west of Scotland) was recorded by Denmark, France, IOM, UK(EWNI) and UK(Scotland). Descriptions of the type and quality of data available for assessing effort and landings of vessels <10m can be found in section 4.

5.4.6.1 Fishing effort of small boats by Member State

Effort by nation and gear type is shown in Table 5.4.6.1.

Overall effort is 9% higher in 2011 compared to 2003 although it has been relatively stable since 2006. Greatest effort comes from Scottish vessels deploying pots. The effort employed in this category to a certain extent dictates the perception of overall effort changes in this region. The second largest effort total is for Scottish vessels employing TR2 gear. Effort in this category is roughly one tenth that in pots and has declined from a high in 2006. Although small in absolute terms compared to Scottish effort there have been large increases in Northern Irish effort in pots and dredging in recent years.

Table 5.4.6.1 West of Scotland. Effort (kW*days) of vessels under 10 metres by gear type and Member State, 2000-2011.

REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	rel chng 03	rel chng 04-06	rel chng 10
3d	DREDGE	none	ENG	205	285		536			2726				825	990	85%	-64%	20%
3d	DREDGE	none	IOM		3100		2728			774						-100%	-100%	NA
3d	DREDGE	none	NIR				252		13886	14934	10218	10819	16248	19622	20018	7844%	39%	2%
3d	DREDGE	none	SCO	33834	56366	44409	84393	104545	66603	19995	31968	57077	34484	33490	40748	-52%	-36%	22%
3d	GN1	none	SCO	101	342				56	468	1800	6493				NA	-100%	NA
3d	GT1	none	SCO								368			610	342	NA	NA	-44%
3d	LL1	none	ENG												10	NA	NA	NA
3d	LL1	none	FRA											1419		NA	NA	-100%
3d	LL1	none	NIR										66			NA	NA	NA
3d	LL1	none	SCO	101			25			51	241	740	664	410	2205	8720%	4224%	438%
3d	none	none	DNK	96	56		111	222	201	204	180	180	36			-100%	-100%	NA
3d	none	none	SCO	432072	324668	87512	110078	125306	120513	163399	124414	116648	162780	170688	207588	89%	52%	22%
3d	OTTER	none	ENG	205		109				783			75			NA	-100%	NA
3d	OTTER	none	NIR											112		NA	NA	-100%
3d	OTTER	none	SCO	8878	5623	4387	9008	7812	18258	20563	5222	5669	2366	4390	5075	-44%	-67%	16%
3d	POTS	none	ENG	21165	36110	642	3380	194	7137	1682	8794	1500	11417	1047	7710	128%	157%	636%
3d	POTS	none	NIR	32589		1540	7518	4192	2700	74352	92327	115948	67827	96875	88041	1071%	225%	-9%
3d	POTS	none	SCO	1652393	1890354	2321198	2743791	2775120	3081361	3690442	3625560	3200012	3350815	3459930	3075476	12%	-3%	-11%
3d	TR1	none	SCO	769	4866	222	1266	496	359	2789	2837	969	1991	5272	2685	112%	121%	-49%
3d	TR2	none	ENG	50582	13608	17658	9260	3987	11052	6941	14620	12354	1343	217	5476	-41%	-25%	2424%
3d	TR2	none	NIR	2386	5634	2960	8934	5756	1379	8873	5427	6125	7857	14427	13695	53%	157%	-5%
3d	TR2	none	SCO	369509	448619	337870	511766	492846	461177	532719	485139	479805	441031	398865	349532	-32%	-29%	-12%
3d	TR3	none	SCO				116									-100%	NA	NA
Total				2604885	2789631	2818507	3493162	3520476	3784682	4541695	4409115	4014339	4099000	4208199	3819591	9%	-3%	-9%

5.4.6.2 Catches (landings and discards) of cod and associated species by small boats by Member State

Table 5.4.6.2.1 summarises landings by vessels under 10m west of Scotland. France, Ireland, UK (EWNI) and UK (Scotland) recorded both effort and landings in area 3d West of Scotland.

Much of the Nephrops and crab catch comes from the creel fishery operating on the west coast while scallops are caught by dredges. Nephrops are also caught by trawls using TR2 mesh size. There are also significant landings of unidentified species (OTH) by Scottish vessels.

Table 5.4.6.2.1 Landings (t) by vessels under 10m west of Scotland by Member State and species.

ANNEX	REG_AREA	VESSEL_LE	COUNTRY	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
IIa	3d	u10m	ENG	ANF	0.061		0.001						
IIa	3d	u10m	ENG	COD			0.001						
IIa	3d	u10m	ENG	HAD	0.174								
IIa	3d	u10m	ENG	NEP	17.247	4.102	14.67	9.622	29.618	36.04	15.138	0.655	23.795
IIa	3d	u10m	ENG	PLE			0.002						
IIa	3d	U10M	IRL	ANF		0.22				0.16		0.09	0.57
IIa	3d	U10M	IRL	COD	0.02	0.35							0.07
IIa	3d	U10M	IRL	HAD		0.98				0.06			
IIa	3d	U10M	IRL	HKE		0.29				0.17			
IIa	3d	U10M	IRL	NEP						2.34			6.89
IIa	3d	U10M	IRL	PLE	0.4	0.69				1.85		2.05	2.94
IIa	3d	U10M	IRL	POK	6.25	0.75						2.2	0.02
IIa	3d	U10M	IRL	SOL		0.27				1.87		1.18	1.16
IIa	3d	U10M	IRL	WHG	0.36	1.12				0.06			0.88
IIa	3d	u10m	NIR	ANF	0.013	0.023		0.312	0.09	0.014		0.068	0.125
IIa	3d	u10m	NIR	COD			0.053	0.012	0.018	0.011		0.038	0.019
IIa	3d	u10m	NIR	HAD	0.064	0.067		0.019	0.025	0.026		0.017	0.047
IIa	3d	u10m	NIR	HKE	0.015	0.008		0.124	0.011	0.001		0.031	0.012
IIa	3d	u10m	NIR	NEP	19.737	16.057	3.137	22.095	14.694	12.735	5.083	37.243	31.792
IIa	3d	u10m	NIR	PLE			0.048					0.013	0.069
IIa	3d	u10m	NIR	POK			0.053						
IIa	3d	u10m	NIR	SOL				0.128	0.024	0.006		0.001	0.006
IIa	3d	u10m	NIR	WHG			1.08						
IIa	3d	u10m	SCO	ANF	8.0712	11.2357	1.2752	3.6373	0.7697	0.3366	0.4925	0.018	
IIa	3d	u10m	SCO	COD	2.7995	1.0617	0.3754	0.8327	2.3035	0.7876	0.7091	0.1013	
IIa	3d	u10m	SCO	HAD	24.5533	12.0178	2.0757	2.8401	1.3215	0.6258	7.6647		0.1939
IIa	3d	u10m	SCO	HKE	0.5911	0.7369	0.3886	0.471	0.05	0.478	0.1226	0.0921	
IIa	3d	u10m	SCO	NEP	1793.426	1788.192	1745.79	2305.565	2329.797	2168.493	1557.759	2012.27	1775.185
IIa	3d	u10m	SCO	PLE	0.0584	0.0503	0.0535	0.5081	0.0707	0.075	24.4174	0.0525	
IIa	3d	u10m	SCO	POK		0.0119	0.0595				8.7325		
IIa	3d	u10m	SCO	SOL		0.001	0.0326	0.0025	0.0242	0.0005		0.001	
IIa	3d	u10m	SCO	WHG	14.3149	6.0225	2.0574	0.8115	0.0339	0.895	0.3059		

5.4.7 ToR 5 Evaluation of fully documented fisheries FDF

5.4.7.1 Fishing effort of FDF by Member State and fisheries in comparison with fisheries not working under FDF provisions

Fishing effort deployed under the FDF scheme have been received and are listed in units of kWdays at sea in Table 5.4.7.1.1. FDF fishing effort was only deployed by Scottish TR1 gears since 2010.

Table 5.4.7.1.1. FDF fishing effort by gear and country and year in units of kW days at sea.

ANNEX	REG AREA	REG GEAR	SPECON	COUNTRY	VESSEL_LENGTH	2010	2011
FDFIIA	3d	TR1	FDFIIA	SCO	O15M	126775	402802

5.4.7.2 Catches (landings and discards) of cod and other species taken by FDF fisheries by Member State and fisheries in comparison with fisheries not working under FDF provisions

Landings and discards by species caught by FDF fisheries have been received and are listed in Table 5.4.7.2.1. Landings and discards were submitted only for Scottish TR1 gears since 2010. Cod landings are low and cod have not been discarded. The catches were dominated by saithe and haddock.

Table 5.4.7.2.1. FDF fishing effort by gear and country and year in units of kW days at sea.

ANNEX	SPECIES	REG_AREA	REG_GEAR	SPECON	COUNTRY	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
FDFIIA	ANF	3d	TR1	FDFIIA	SCO	6	0	0	94	0	0
FDFIIA	BRF	3d	TR1	FDFIIA	SCO			0	0	0	0
FDFIIA	BSF	3d	TR1	FDFIIA	SCO			0	0	0	0
FDFIIA	CAT	3d	TR1	FDFIIA	SCO	0	0	0	0	0	0
FDFIIA	COD	3d	TR1	FDFIIA	SCO	11	0	0	24	0	0
FDFIIA	COE	3d	TR1	FDFIIA	SCO	0	0	0	2	0	0
FDFIIA	DGS	3d	TR1	FDFIIA	SCO	0	0	0			0
FDFIIA	FLX	3d	TR1	FDFIIA	SCO			0	0	0	0
FDFIIA	FOX	3d	TR1	FDFIIA	SCO			0	1	0	0
FDFIIA	HAD	3d	TR1	FDFIIA	SCO	416	0	0	433	69	0.14
FDFIIA	HAL	3d	TR1	FDFIIA	SCO	0	0	0	0	0	0
FDFIIA	HKE	3d	TR1	FDFIIA	SCO	8	0	0	92	0	0
FDFIIA	JAX	3d	TR1	FDFIIA	SCO	0	0	0			0
FDFIIA	LEM	3d	TR1	FDFIIA	SCO	1	0	0	2	0	0
FDFIIA	LEZ	3d	TR1	FDFIIA	SCO	6	0	0	33	0	0
FDFIIA	LIN	3d	TR1	FDFIIA	SCO	14	0	0	145	0	0
FDFIIA	MAC	3d	TR1	FDFIIA	SCO	1	0	0			0
FDFIIA	OTH	3d	TR1	FDFIIA	SCO	26	0	0	88	0	0
FDFIIA	PLE	3d	TR1	FDFIIA	SCO	1	0	0	6	0	0
FDFIIA	POK	3d	TR1	FDFIIA	SCO	366	0	0	1076	297	0.22
FDFIIA	POL	3d	TR1	FDFIIA	SCO	5	0	0	18	0	0
FDFIIA	RNG	3d	TR1	FDFIIA	SCO			0	0	0	0
FDFIIA	SQS	3d	TR1	FDFIIA	SCO	27	0	0			0
FDFIIA	SRX	3d	TR1	FDFIIA	SCO	1	0	0	11	0	0
FDFIIA	TUR	3d	TR1	FDFIIA	SCO	0	0	0	0	0	0
FDFIIA	USK	3d	TR1	FDFIIA	SCO	0	0	0	8	0	0
FDFIIA	WHG	3d	TR1	FDFIIA	SCO	38	0	0	17	10	0.37
FDFIIA	WIT	3d	TR1	FDFIIA	SCO	0	0	0	0	0	0

5.4.8 ToR 6 Spatio-temporal patterns in effective effort by fisheries

Spatial figures of effort for area 3d concentrate on those categories identified as significant in terms of recorded effort (see previous section 5.4.1) and in terms of catches of cod (section 5.4.2). From section 5.4.2 catches of plaice and sole are shown to be small for all gear categories in the west of Scotland area and these species were not considered when deciding on categories to present here. Figures use a common scale across years for a given category (e.g. TR1) but scales are unique to each category such that the colours assigned to statistical rectangles for category TR1 can not be compared directly to those assigned for category TR2 say. Figures are based on absolute values. This is after data values across all years have been combined for that category. Zero values are removed first.

TR1 (Figure 5.4.8.1) – Effort is greatest in the north of the area with a distinct line of high effort in statistical rectangles straddling or close to the shelf edge. At the start of the time series a rectangle in the far south east of the area (mouth of the Clyde) had one of the highest recorded levels of effort. This area was the location for a specific cod fishery now subject to seasonal closures. The reduction in overall effort within this gear category is clear.

TR2 (Figure 5.4.8.2) – It can be seen that vessels using gear in the TR2 category primarily belong to coastal fisheries. These vessels target Nephrops on well defined fishing grounds with muddy substrate. Highest effort is consistently just north of the boundary between management areas 3d and 3c (mouth of the Clyde). Remaining important rectangles are adjacent to the Scottish mainland, in particular between the Scottish mainland and the Outer Hebrides (known as the north and south Minches). The time series shows a contraction of effort in towards these areas of greatest activity.

LL1 (Figure 5.4.8.3) – There is a concentration of effort along the continental shelf edge throughout the time series.

GN1 (Figure 5.4.8.4) – Overall effort recorded for this category is low but LPUE of cod is currently the highest behind the TR gears. Until 2005 effort generally took place offshore and was split between an area in the north west of ICES division VIa and an area to the west of Ireland. Subsequently effort shifted until in 2008 there appeared to be a new concentration of effort in the north of area VIa but now located on the continental shelf edge.

The following are unregulated gear types but given the importance of unregulated gear effort relative to regulated gear effort (see Figure 5.4.8.5) they are shown to provide background information on the three unregulated gear types with highest effort.

PEL_TRAWL: (Figure 5.4.8.5) – Primarily an offshore fishery, (targeting herring), between 2003 and 2005 greatest effort was expended in the far north east corner of area VIa. Highest effort is at the shelf edge but overall effort has deceased towards and including 2011.

POTS (Figure 5.4.8.6) – Vessels using pots target Nephrops and edible crabs west of Scotland and effort is concentrated in coastal waters of Scotland from the southern border of area VIa north as far as the North Minch. There is no indication of a spatial shift in effort or of a change in overall effort.

DREDGE (Figure 5.4.8.7) – West of Scotland dredge fishing is used to catch scallops. Greatest effort seems to have shifted from the South Minch area to coastal areas further south (including the Clyde).

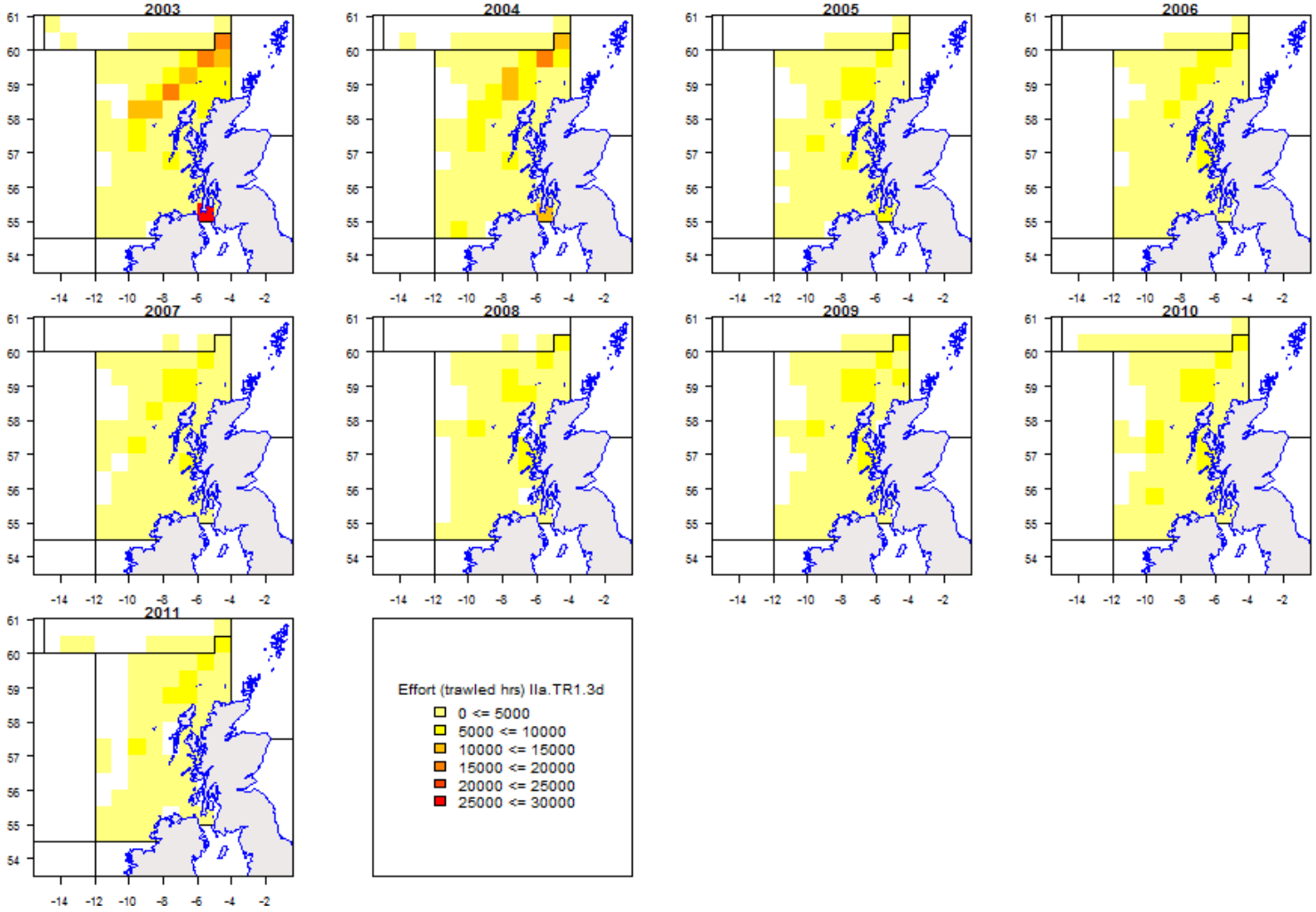


Figure 5.4.8.1 West of Scotland. Effort (trawled hours) by ICES statistical rectangle for TR1, 2003-2011. These figures include effort carried out under special condition CPart11.

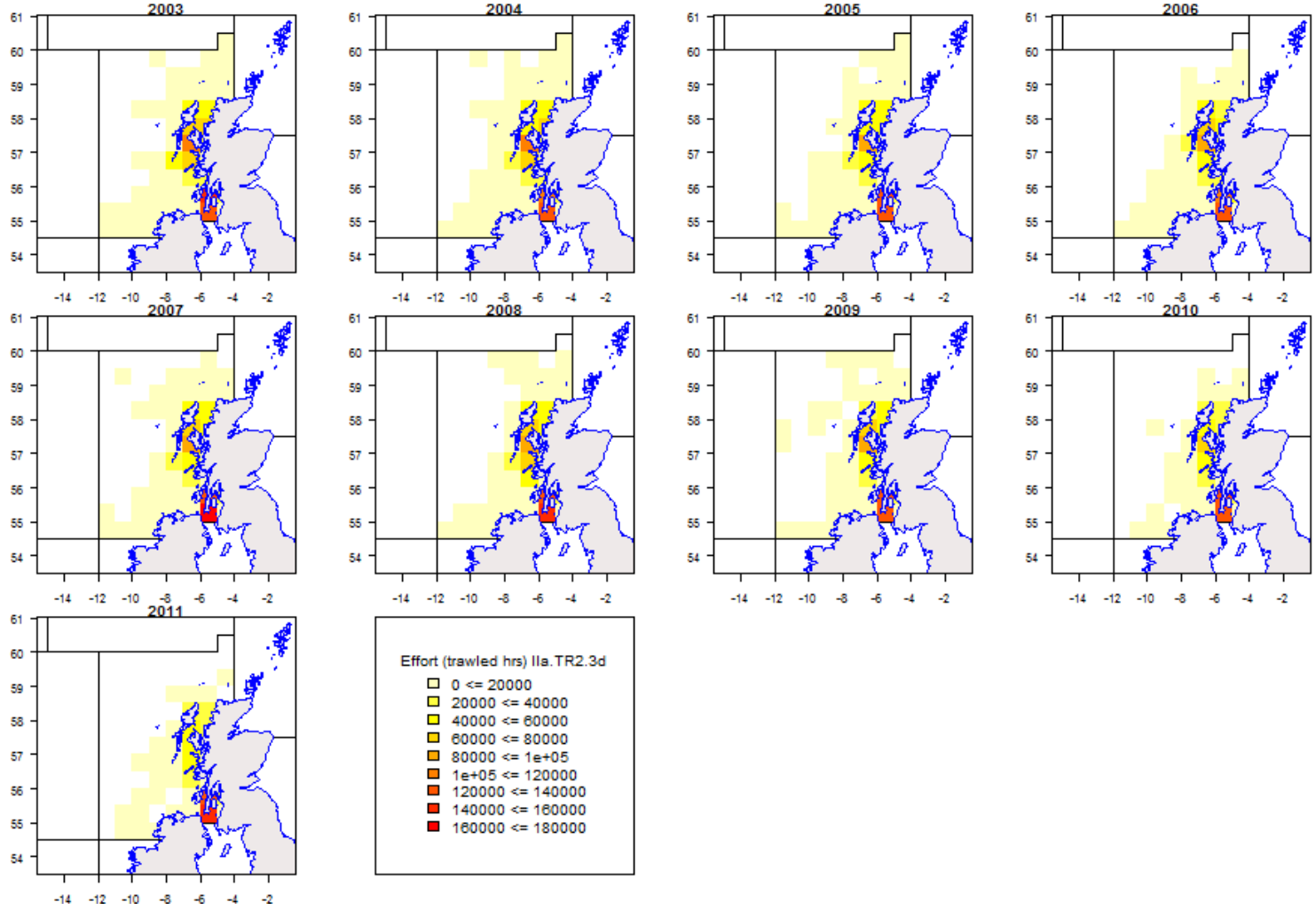


Figure 5.4.8.2 West of Scotland. Effort (trawled hours) by ICES statistical rectangle for TR2, 2003-2011. These figures include effort carried out under special condition CPart11.

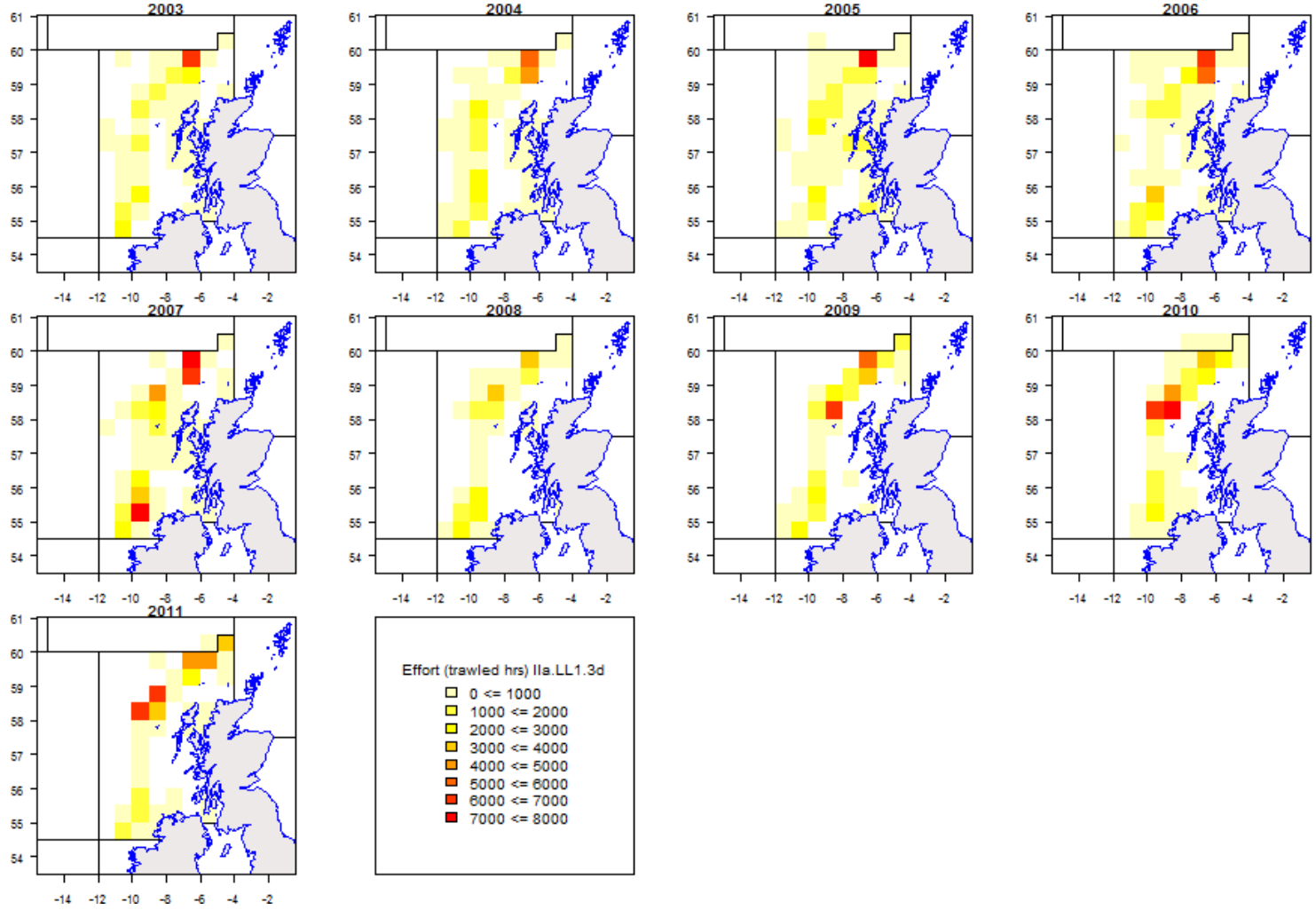


Figure 5.4.8.3 West of Scotland. Effort (trawled hours) by ICES statistical rectangle for LL1, 2003-2011.

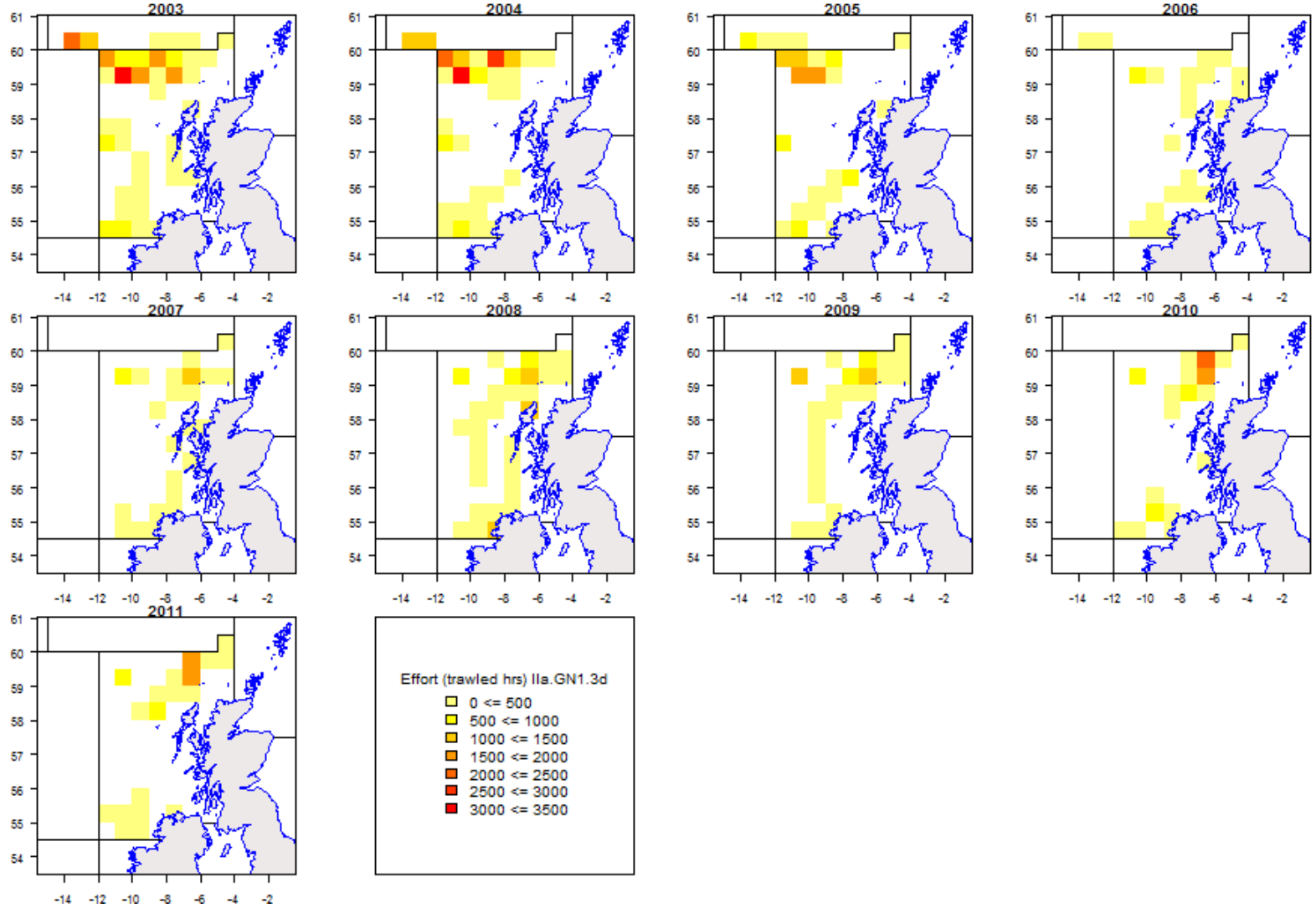


Figure 5.4.8.4 West of Scotland. Effort (hours) by ICES statistical rectangle for GN1, 2003-2011.

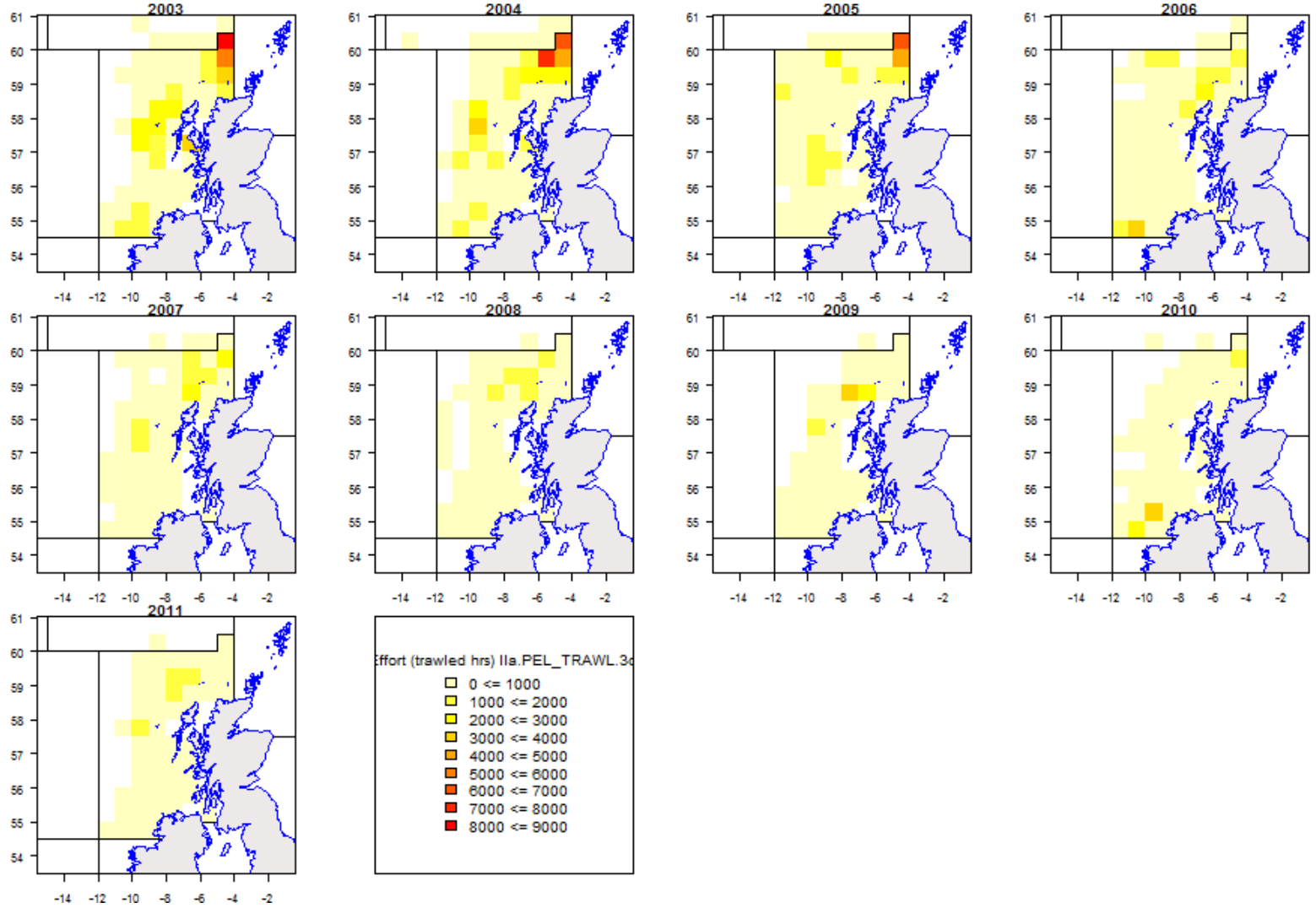


Figure 5.4.8.5 West of Scotland. Effort (hours) by ICES statistical rectangle for unregulated gear PELAGIC TRAWL, 2003-2011

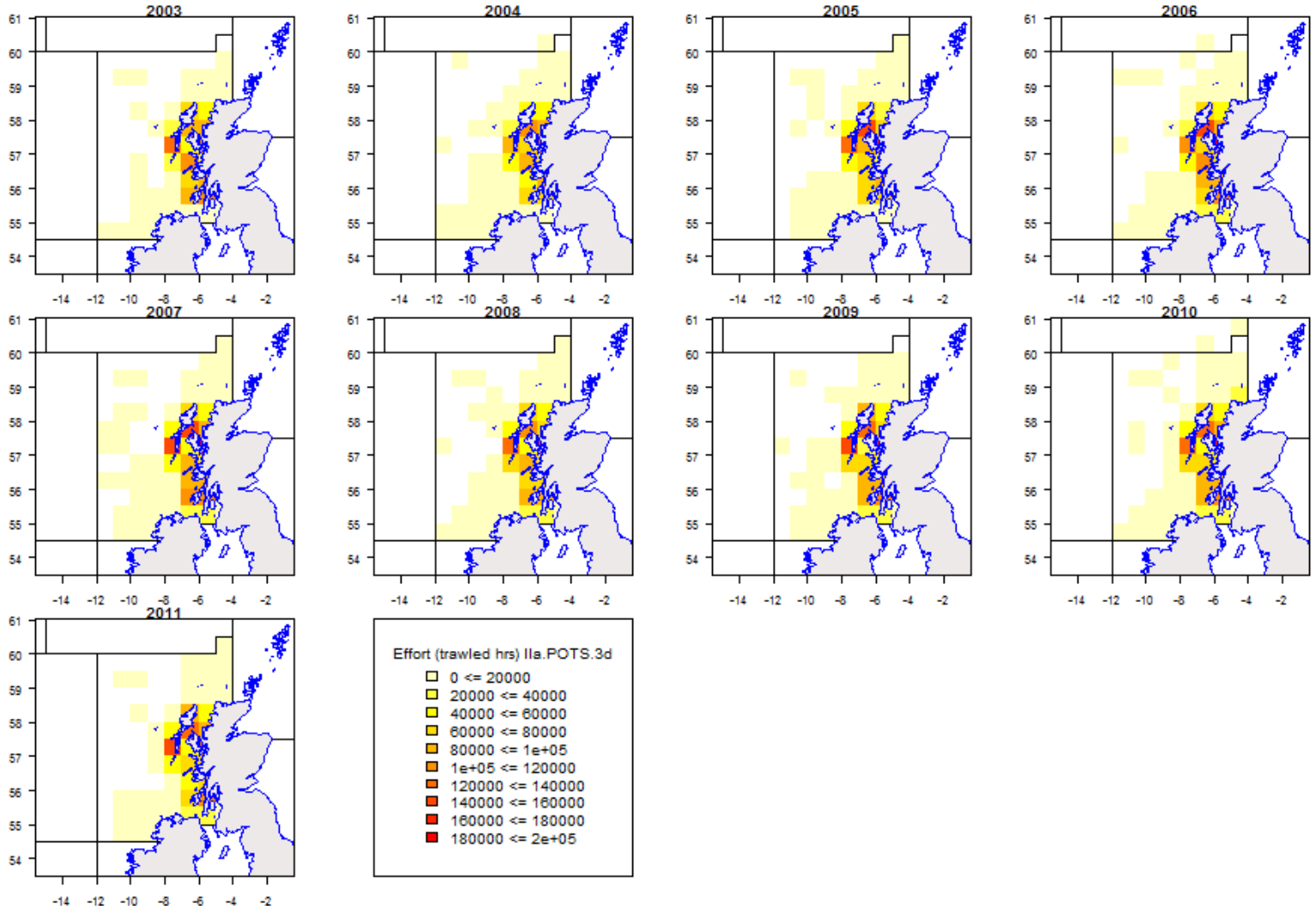


Figure 5.4.8.6 West of Scotland. Effort (hours) by ICES statistical rectangle for unregulated gear POTS, 2003-2011

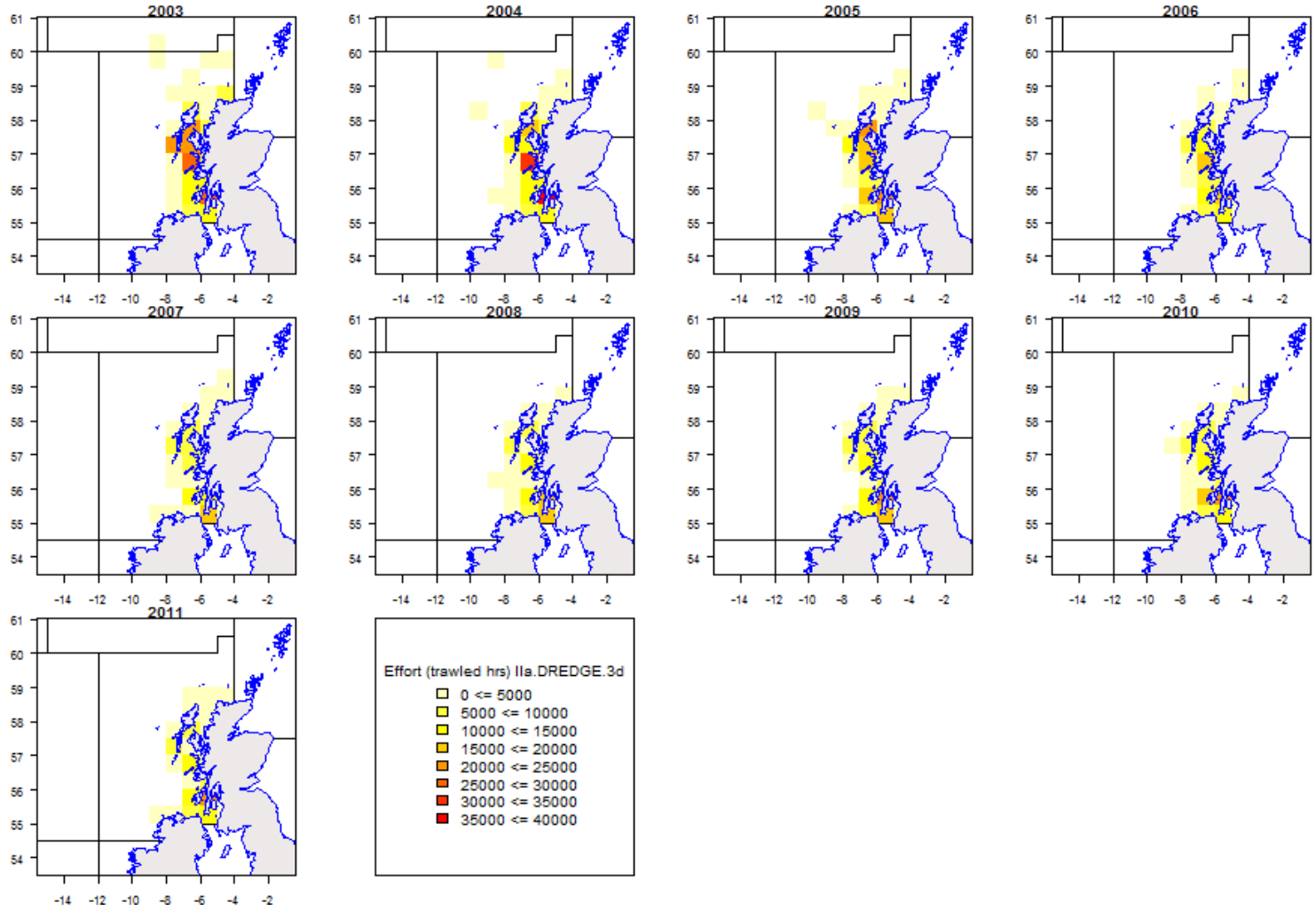


Figure 5.4.8.7 West of Scotland. Effort (hours) by ICES statistical rectangle for unregulated gear DREDGE, 2003-2011

5.4.9 *ToR 7 Any unexpected evolutions of the trends in catches and effort by Member State and fisheries*

STECF EWG 12-12 has no comments.

5.4.10 *ToR 8 Correlation between partial cod mortality and fishing effort by Member State and fisheries*

EWG 12-12 interprets this task as largely overlapping with ToR 10 and 11. The EWG 12-12 analyses and response can be found in chapter 5.4.13.

5.4.11 *ToR 9 Estimation of conversion factors to be applied for effort transfers between regulated gear groups*

The table of international conversion factors (Table 5.4.11.1) is based on average CPUE (2009-2011). Discard data are scarce for many regulated gear groups but have been interpreted as well representative for TR1 and TR2.

Table 5.4.11.1 West of Scotland. Conversion factors for exchange of effort between gears based on average CPUE 2009-2011. Red cells indicate no discard data included and values are estimated based on LPUE; green cells indicate well representative discard information available.

	donor gear	receiving gear							
		BT1	BT2	GN1	LL1	TR1	TR2		CPUE
3d	BT1		1	0.1	1	0.006	0.077		1
3d	BT2	1		0.1	1	0.006	0.077		1
3d	GN1	1	1		1	0.058	0.769		10
3d	LL1	1	1	0.1		0.006	0.077		1
3d	TR1	1	1	1	1		1		171
3d	TR2	1	1	1	1	0.076			13

5.4.12 *ToR 10 Estimation of partial fishing mortalities of cod by area, Member State and fisheries and correlation between partial cod mortality and fishing effort by area, Member State and fisheries*

EWG 12-12 interprets this task as largely overlapping with ToR 9 and 11. The EWG 12-12 analyses and response can be found in chapter 5.4.13.

5.4.13 *ToR 11 Comparative analyses between trends in fishing mortality and fishing effort by Member State and fisheries and the cod plan (R (EC) No 1342/2008) provisions, in particular with regard to Article 13*

The STECF EWG 12-12 presents partial fishing mortalities of cod by major fisheries and Member States in relation to the estimated fishing mortality by ICES (2012) and the catches (Table 5.4.13.1), landings (Table 5.4.13.2) and discards volumes (Table 5.4.13.3) in relation to the catch totals supplied to STECF for the year available. The full list of all fisheries can be downloaded from the EWG's web page: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg12. The anticipated trend in fishing mortality as derived from the cod plan is also presented in Tables 5.4.13.1-3. The sustainable exploitation target is defined as F_{MSY}=0.4. The trends in fishing effort in units of kWdays at sea of the relevant fisheries are also presented in Tables 5.4.13.1-3. The presented parameters r (absolute value of Pearson's coefficient of correlation), numbers of points considered as well as a p value to quantify the statistical significance (≤0.05) allow conclusions about

the quality of the correlation between the partial F and fisheries specific fishing effort. Those values are presented in the Tables 5.4.13.1-3 and resulting regressions are shown in Fig. 5.4.13.1 for major fisheries.

It can be concluded from the estimated F of the stock assessment (Table 5.4.13.1) that the stock is unsustainably exploited with an F 2 times higher than the target. The fisheries listed within the table contribute around 50% to the total estimated fishing mortality. The remainder is due to adjustment of ICES data for estimates of area misreporting, ICES estimates of unallocated mortality and due to difference in the applied methods to estimate discards between ICES and STECF EWG 12-12.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for catches and discards of the regulated fisheries and their estimated fishing efforts are not statistically significant or significant but negative. The correlation between the summed partial Fs for landings and fishing effort are significant. The partial Fs of discards from the Scottish TR1 working under the cod plan article 13.2.b-c-d are recently increasing and dominating the fishing mortality. There are no indications that the Scottish TR1 fishery working under the article 13.2.b-c-d have contributed to a reduction in fishing mortality of cod.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for catches of the effort regulated fisheries and their estimated fishing efforts are not statistically significant. Statistical non-significance may result from low stock size and uncertainties in the estimation of the stock parameters. STECF EWG 12-12 notes that strong management measures reducing the catchability of cod would break the relationship between F and effort. However, the lack of significant relationships between F and effort for the greatest contributors to cod catches indicates that kWdays at sea may not be an appropriate auxiliary measure to catch constraints and technical measures for this stock, possibly because the available TACs could be caught using far fewer kWdays than the effort ceilings.

Table 5.4.13.1 West of Scotland. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for catches of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

Runnig previous year annual F reductions by 25 percent as SSB remains below Blim											Reference year						Effort kW days running previous year baseline													
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012				
F plan												1.026	0.77	0.578	0.434	0.326	Effort plan/ TAC regulations						17062478	13613227	11874069	9727370	8795565				
reduction F plan													-0.25	-0.25	-0.25	-0.25	reduction	not following the provision of Article 12.2 and 4 (base line revisions?)							-0.20	-0.13	-0.18	-0.10			
F estimated							1.044	0.983	1.082	0.9	1.063	1.026	0.885	0.793	0.951		Effort estimated	21416808	18983522	16048331	14392388	15121778	14268884	14265810	11425737	9348917					
reduction F estimated													-0.14	-0.1	0.2										0.00	-0.20	-0.18				
													not following the provision of Article 7																		
																	EFFORT													2003-2011	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p	n	
IIa	3d	COD	DEU	TR1	CPart13.2b	catch	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	0	0	0	0	0	0	4530	0	NA		NA		1
IIa	3d	COD	DEU	TR1	none	catch	0.000	0.000	0.000	0.002	0.004	0.001	0.000	0.000	0.000			19191	12530	35586	27897	23652	3060	4854	2427	0	0.303		0.466		8
IIa	3d	COD	ENG	BT2	none	catch	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			1274	12067	1810	0	0	0	0	0	0	NA		NA		3
IIa	3d	COD	ENG	GN1	none	catch	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			471808	309423	201100	23028	36174	0	13832	2540	0	NA		NA		7
IIa	3d	COD	ENG	LL1	none	catch	0.001	0.001	0.002	0.004	0.003	0.000	0.000	0.000	0.000			370933	459841	317428	284497	325325	28103	0	0	0	0.309		0.551		6
IIa	3d	COD	ENG	TR1	none	catch	0.008	0.007	0.004	0.012	0.001	0.007	0.002	0.001	0.001			319445	145914	85851	48469	8711	17020	24446	14062	12979	0.461		0.212		9
IIa	3d	COD	ENG	TR2	none	catch	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000			106861	66311	57345	63616	58724	87267	15721	14802	21642	0.763		0.017		9
IIa	3d	COD	FRA	GN1	none	catch	0.001	0.000	0.004	0.005	0.004	0.002	0.002	0.001	0.001			130216	169758	145478	129344	230271	572425	572425	294925	241877	-0.142		0.716		9
IIa	3d	COD	FRA	LL1	none	catch	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000			0	0	0	163130	445344	277750	277750	189072	172250	-0.418		0.409		6
IIa	3d	COD	FRA	TR1	CPart13.2.b *)	catch	0.039	0.037	0.060	0.104	0.102	0.172	0.036	0.060	0.013			6010785	5807538	6038254	5193815	5058616	4486887	4482329	3469228	2149300	0.158		0.685		9
IIa	3d	COD	FRA	TR2	CPart13.2.b *)	catch	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			43098	12350	0	0	883	269645	274203	0	0	-0.308		0.614		5
IIa	3d	COD	IOM	TR2	none	catch	0	0	0	0.0006	0	0	0	0	0			181	1172	181	894	0	649	0	0	0	0.356		0.557		5
IIa	3d	COD	IRL	GN1	none	catch	0	0.0004	0	0	0.0017	0.0023	0.0004	0	0.0003			19967	20763	192	3554	13346	9949	3275	551	2075	0.247		0.522		9
IIa	3d	COD	IRL	LL1	none	catch	0	0	0	0	0	0	0	0	0			7200	18400	3000	0	9750	0	0	1397	7263	NA		NA		6
IIa	3d	COD	IRL	TR1	CPart13.2c-d	catch	0	0	0	0	0	0	0.0096	0.0164	0.0112			0	0	0	0	0	0	551302	754458	353477	NA		NA		3
IIa	3d	COD	IRL	TR1	none	catch	0.0081	0.0016	0.0065	0.0108	0.0179	0.0204	0	0	0			496439	316477	308681	325597	530740	435661	0	0	0	0.616		0.193		6
IIa	3d	COD	IRL	TR2	none	catch	0.0268	0.0128	0.0136	0.1006	0.0131	0.0121	0.0009	0	0.0003			1130195	977557	767211	712325	388727	205082	17989	9150	17532	0.434		0.243		9
IIa	3d	COD	IRL	TR3	none	catch	0	0	0	0	0	0	0	0	0			2198	0	342	160	317	11321	1323	0	5915	NA		NA		7
IIa	3d	COD	NIR	TR1	none	catch	0.0102	0.0128	0.0124	0.0078	0.0122	0.0070	0.0035	0.0902	0.0000			338394	162967	87191	29352	33609	38338	45378	23859	3160	-0.144		0.712		9
IIa	3d	COD	NIR	TR2	none	catch	0.0014	0.0031	0.0012	0.0114	0.0096	0.0042	0.0004	0.0003	0.0003			280147	353158	350269	453556	758258	652352	523976	874397	944199	-0.066		0.866		9
IIa	3d	COD	NLD	TR2	none	catch	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	5464	NA		NA		1
IIa	3d	COD	SCO	BT1	none	catch	0.0005	0.0023	0.0006	0	0	0	0	0	0			60296	151480	119958	81195	1803	0	0	0	0	0.774		0.124		5
IIa	3d	COD	SCO	LL1	none	catch	0.0007	0.0012	0.0012	0.0012	0.0009	0	0	0	0			124695	148430	306947	371404	518887	378736	703396	723065	694992	-0.708		0.033		9
IIa	3d	COD	SCO	TR1	CPart13.2.b-c-d	catch	0	0	0	0	0	0	0.3067	0.1913	0.4089			0	0	0	0	0	0	2228713	2315824	2079554	NA		NA		3
IIa	3d	COD	SCO	TR1	none	catch	0.1721	0.1334	0.1778	0.3235	0.3449	0.3597	0	0	0			5722626	4502155	2635381	2099672	1986484	1990142	0	0	0	-0.794		0.06		6
IIa	3d	COD	SCO	TR2	CPart13.2.b-c-d	catch	0	0	0	0	0	0	0.0235	0.0017	0.0316			0	0	0	0	0	0	4524898	2731450	2637238	NA		NA		3
IIa	3d	COD	SCO	TR2	none	catch	0.0385	0.0326	0.0307	0.047	0.0675	0.0149	0	0	0			5760859	5335231	4586126	4380883	4692157	4804497	0	0	0	-0.182		0.73		6
Sum							0.3091	0.2457	0.3137	0.6341	0.5833	0.6050	0.3845	0.3617	0.4676			21416808	18983522	16048331	14392388	15121778	14268884	14265810	11425737	9348917	0.433		0.244		9
check sum Fpar/F							0.2961	0.2499	0.2899	0.7046	0.5487	0.5897	0.4345	0.4561	0.4917																

Table 5.4.13.2 West of Scotland. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for landings of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

Runnig previous year annual F reductions by 25 percent as SSB remains below Blim											Reference year					
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F plan												1.026	0.77	0.578	0.434	0.326
reduction F plan													-0.25	-0.25	-0.25	-0.25
F estimated							1.044	0.983	1.082	0.9	1.063	1.026	0.885	0.793	0.951	
reduction F estimated													-0.14	-0.1	0.2	
													not following the provision of Article 7			
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011	
IIa	3d	COD	DEU	TR1	CPart13.2b	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	DEU	TR1	none	landings	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	
IIa	3d	COD	ENG	BT2	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	ENG	GN1	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	ENG	LL1	none	landings	0.001	0.001	0.002	0.004	0.003	0.000	0.000	0.000	0.000	
IIa	3d	COD	ENG	TR1	none	landings	0.008	0.007	0.004	0.005	0.000	0.002	0.002	0.000	0.001	
IIa	3d	COD	ENG	TR2	none	landings	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.000	0.000	
IIa	3d	COD	FRA	GN1	none	landings	0.001	0.000	0.004	0.005	0.004	0.002	0.002	0.001	0.001	
IIa	3d	COD	FRA	LL1	none	landings	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	FRA	TR1	CPart13.2.b *)	landings	0.039	0.034	0.060	0.053	0.036	0.038	0.036	0.016	0.013	
IIa	3d	COD	FRA	TR2	CPart13.2.b *)	landings	0.0002	0	0	0	0	0	0	0	0	
IIa	3d	COD	IOM	TR2	none	landings	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	IRL	GN1	none	landings	0	0.0004	0	0	0.0017	0.0023	0.0004	0	0.0003	
IIa	3d	COD	IRL	LL1	none	landings	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	IRL	TR1	CPart13.2c-d	landings	0	0	0	0	0	0	0.0091	0.0164	0.0109	
IIa	3d	COD	IRL	TR1	none	landings	0.0069	0.0012	0.0059	0.0042	0.017	0.0172	0	0	0	
IIa	3d	COD	IRL	TR2	none	landings	0.0216	0.0112	0.0106	0.0066	0.0118	0.0079	0.0009	0	0.0003	
IIa	3d	COD	IRL	TR3	none	landings	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	NIR	TR1	none	landings	0.0102	0.0128	0.0124	0.0042	0.0026	0.0023	0.0035	0.0003	0	
IIa	3d	COD	NIR	TR2	none	landings	0.0014	0.0023	0.0012	0.0024	0.0030	0.0014	0.0004	0.0003	0.0003	
IIa	3d	COD	NLD	TR2	none	landings	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	SCO	BT1	none	landings	0.0005	0.0023	0.0006	0	0	0	0	0	0	
IIa	3d	COD	SCO	LL1	none	landings	0.0007	0.0012	0.0012	0.0012	0.0009	0	0	0	0	
IIa	3d	COD	SCO	TR1	CPart13.2.b-c-d	landings	0	0	0	0	0	0	0.0421	0.0367	0.034	
IIa	3d	COD	SCO	TR1	none	landings	0.1709	0.1307	0.176	0.1651	0.0984	0.0943	0	0	0	
IIa	3d	COD	SCO	TR2	CPart13.2.b-c-d	landings	0	0	0	0	0	0	0.003	0.0017	0.0024	
IIa	3d	COD	SCO	TR2	none	landings	0.0347	0.0202	0.0148	0.0114	0.0131	0.0116	0	0	0	
Sum							0.2970	0.2250	0.2924	0.2679	0.1933	0.1807	0.0989	0.0724	0.0628	
check sum Fpar/F							0.2845	0.2289	0.2702	0.2977	0.1818	0.1761	0.1118	0.0913	0.066	

Effort kW days running previous year baseline													
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012			
Effort plan/ TAC regulations						17062478	13613227	11874069	9727370	8795565			
reduction	not following the provision of Article 12.2 and 4 (base line revisions?)						-0.20	-0.13	-0.18	-0.10			
Effort estimated	21416808	18983522	16048331	14392388	15121778	14268884	14265810	11425737	9348917				
							0.00	-0.20	-0.18				
EFFORT													2003-2011
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p	n
	0	0	0	0	0	0	0	4530	0	NA		NA	1
	19191	12530	35586	27897	23652	3060	4854	2427	0	0.349		0.397	8
	1274	12067	1810	0	0	0	0	0	0	NA		NA	3
	471808	309423	201100	23028	36174	0	13832	2540	0	NA		NA	7
	370933	459841	317428	284497	325325	28103	0	0	0	0.309		0.551	6
	319445	145914	85851	48469	8711	17020	24446	14062	12979	0.853		0.003	9
	106861	66311	57345	63616	58724	87267	15721	14802	21642	0.810		0.008	9
	130216	169758	145478	129344	230271	572425	572425	294925	241877	-0.142		0.716	9
	0	0	0	163130	445344	277750	277750	189072	172250	-0.418		0.409	6
	6010785	5807538	6038254	5193815	5058616	4486887	4482329	3469228	2149300	0.805		0.009	9
	43098	12350	0	0	883	269645	274203	0	0	-0.308		0.614	5
	181	1172	181	894	0	649	0	0	0	NA		NA	5
	19967	20763	192	3554	13346	9949	3275	551	2075	0.247		0.522	9
	7200	18400	3000	0	9750	0	0	1397	7263	NA		NA	6
	0	0	0	0	0	0	551302	754458	353477	NA		NA	3
	496439	316477	308681	325597	530740	435661	0	0	0	0.729		0.1	6
	1130195	977557	767211	712325	388727	205082	17989	9150	17532	0.862		0.003	9
	2198	0	342	160	317	11321	1323	0	5915	NA		NA	7
	338394	162967	87191	29352	33609	38338	45378	23859	3160	0.697		0.037	9
	280147	353158	350269	453556	758258	652352	523976	874397	944199	-0.337		0.375	9
	0	0	0	0	0	0	0	0	5464	NA		NA	1
	60296	151480	119958	81195	1803	0	0	0	0	0.774		0.124	5
	124695	148430	306947	371404	518887	378736	703396	723065	694992	-0.708		0.033	9
	0	0	0	0	0	0	2228713	2315824	2079554	NA		NA	3
	5722626	4502155	2635381	2099672	1986484	1990142	0	0	0	0.424		0.402	6
	0	0	0	0	0	0	4524898	2731450	2637238	NA		NA	3
	5760859	5335231	4586126	4380883	4692157	4804497	0	0	0	0.922		0.009	6
	21416808	18983522	16048331	14392388	15121778	14268884	14265810	11425737	9348917	0.791		0.011	9

Table 5.4.13.3 West of Scotland. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for discards of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

Runnig previous year annual F reductions by 25 percent as SSB remains below Blim											Reference year					
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F plan												1.026	0.77	0.578	0.434	0.326
reduction F plan													-0.25	-0.25	-0.25	-0.25
F estimated							1.044	0.983	1.082	0.9	1.063	1.026	0.885	0.793	0.951	
reduction F estimated													-0.14	-0.1	0.2	
													not following the provision of Article 7			
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011	
IIa	3d	COD	DEU	TR1	CPart13.2b	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	DEU	TR1	none	discards	0.000	0.000	0.000	0.001	0.004	0.001	0.000	0.000	0.000	
IIa	3d	COD	ENG	BT2	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	ENG	GN1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	ENG	LL1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	ENG	TR1	none	discards	0.000	0.000	0.000	0.007	0.000	0.006	0.000	0.000	0.000	
IIa	3d	COD	ENG	TR2	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	FRA	GN1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	FRA	LL1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
IIa	3d	COD	FRA	TR1	CPart13.2.b *)	discards	0.001	0.003	0.000	0.051	0.066	0.134	0.000	0.044	0.000	
IIa	3d	COD	FRA	TR2	CPart13.2.b *)	discards	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	IOM	TR2	none	discards	0	0	0	0.0006	0	0	0	0	0	
IIa	3d	COD	IRL	GN1	none	discards	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	IRL	LL1	none	discards	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	IRL	TR1	CPart13.2c-d	discards	0	0	0	0	0	0	0.0004	0	0.0003	
IIa	3d	COD	IRL	TR1	none	discards	0.0012	0.0004	0.0006	0.0066	0.0009	0.0033	0	0	0	
IIa	3d	COD	IRL	TR2	none	discards	0.0052	0.0016	0.003	0.094	0.0013	0.0042	0	0	0	
IIa	3d	COD	IRL	TR3	none	discards	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	NIR	TR1	none	discards	0.0000	0.0000	0.0000	0.0036	0.0096	0.0046	0.0000	0.0898	0.0000	
IIa	3d	COD	NIR	TR2	none	discards	0	0.0008	0	0.009	0.0065	0.0028	0	0	0	
IIa	3d	COD	NLD	TR2	none	discards	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	SCO	BT1	none	discards	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	SCO	LL1	none	discards	0	0	0	0	0	0	0	0	0	
IIa	3d	COD	SCO	TR1	CPart13.2.b-c-d	discards	0	0	0	0	0	0	0.2646	0.1546	0.3749	
IIa	3d	COD	SCO	TR1	none	discards	0.0012	0.0027	0.0018	0.1584	0.2465	0.2653	0	0	0	
IIa	3d	COD	SCO	TR2	CPart13.2.b-c-d	discards	0	0	0	0	0	0	0.0204	0	0.0292	
IIa	3d	COD	SCO	TR2	none	discards	0.0038	0.0124	0.0159	0.0355	0.0544	0.0033	0	0	0	
Sum							0.0121	0.0206	0.0213	0.3661	0.3897	0.4243	0.2854	0.2891	0.4047	
check sum Fpar/F							0.0116	0.021	0.0197	0.4068	0.3666	0.4135	0.3225	0.3646	0.4256	

Effort kW days running previous year baseline														
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012				
Effort plan/ TAC regulations						17062478	13613227	11874069	9727370	8795565				
reduction	not following the provision of Article 12.2 and 4 (base line revisions?)						-0.20	-0.13	-0.18	-0.10				
Effort estimated	21416808	18983522	16048331	14392388	15121778	14268884	14265810	11425737	9348917					
							0.00	-0.20	-0.18					
EFFORT													2003-2011	
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p	n	
	0	0	0	0	0	0	0	4530	0	NA		NA	1	
	19191	12530	35586	27897	23652	3060	4854	2427	0	0.264		0.528	8	
	1274	12067	1810	0	0	0	0	0	0	NA		NA	3	
	471808	309423	201100	23028	36174	0	13832	2540	0	NA		NA	7	
	370933	459841	317428	284497	325325	28103	0	0	0	NA		NA	6	
	319445	145914	85851	48469	8711	17020	24446	14062	12979	-0.254		0.510	9	
	106861	66311	57345	63616	58724	87267	15721	14802	21642	0.047		0.904	9	
	130216	169758	145478	129344	230271	572425	572425	294925	241877	NA		NA	9	
	0	0	0	163130	445344	277750	277750	189072	172250	NA		NA	6	
	6010785	5807538	6038254	5193815	5058616	4486887	4482329	3469228	2149300	-0.094		0.809	9	
	43098	12350	0	0	883	269645	274203	0	0	NA		NA	5	
	181	1172	181	894	0	649	0	0	0	0.356		0.557	5	
	19967	20763	192	3554	13346	9949	3275	551	2075	NA		NA	9	
	7200	18400	3000	0	9750	0	0	1397	7263	NA		NA	6	
	0	0	0	0	0	0	551302	754458	353477	NA		NA	3	
	496439	316477	308681	325597	530740	435661	0	0	0	-0.222		0.673	6	
	1130195	977557	767211	712325	388727	205082	17989	9150	17532	0.248		0.52	9	
	2198	0	342	160	317	11321	1323	0	5915	NA		NA	7	
	338394	162967	87191	29352	33609	38338	45378	23859	3160	-0.255		0.508	9	
	280147	353158	350269	453556	758258	652352	523976	874397	944199	0.017		0.966	9	
	0	0	0	0	0	0	0	0	5464	NA		NA	1	
	60296	151480	119958	81195	1803	0	0	0	0	NA		NA	5	
	124695	148430	306947	371404	518887	378736	703396	723065	694992	NA		NA	9	
	0	0	0	0	0	0	2228713	2315824	2079554	NA		NA	3	
	5722626	4502155	2635381	2099672	1986484	1990142	0	0	0	-0.758		0.081	6	
	0	0	0	0	0	0	4524898	2731450	2637238	NA		NA	3	
	5760859	5335231	4586126	4380883	4692157	4804497	0	0	0	-0.568		0.24	6	
	21416808	18983522	16048331	14392388	15121778	14268884	14265810	11425737	9348917	0.762		0.017	9	

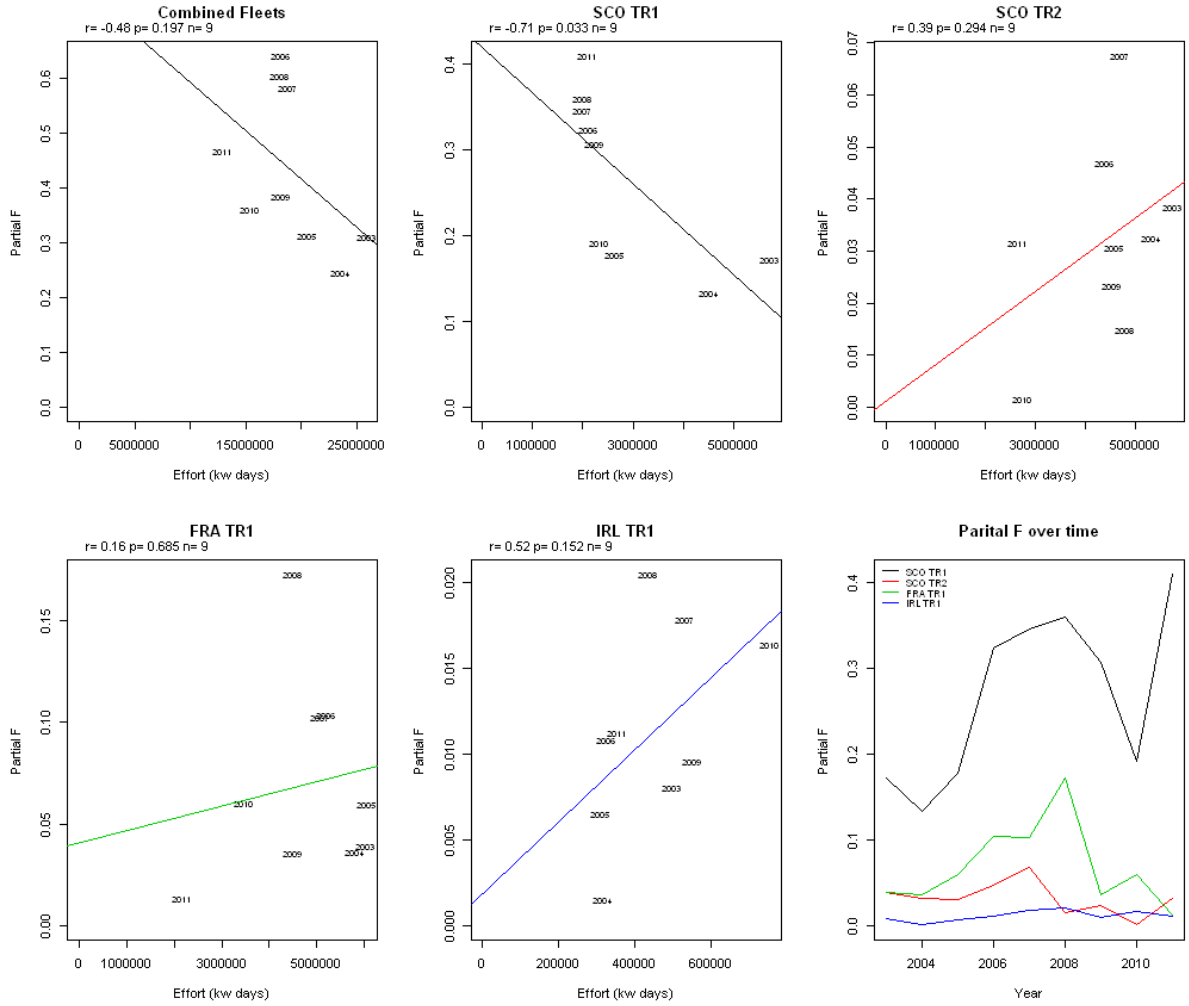


Fig. 5.4.13.1 West of Scotland cod. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) in area 3d of major fisheries, 2003-2011. r = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated fisheries and that the trends of the fisheries are not separated by special conditions.

5.4.14 ToR 12 Considerations in order to accomplish spatio-temoral pattern in standardized catchability indices for cod

Consideration of spatio-temporal pattern in catchability is limited because France has supplied landings by rectangle data for 2011 only. It should also be noted that estimating catchabilities using landings information can only be meaningful if discarding is low. This is not the case for cod west of Scotland.

Figures 5.4.14.1 to 5.4.14.6 consider the spatial pattern attributed to landings in 2011 for key species west of Scotland. TR1 and TR2 trawl gears are the dominant regulated gears west of Scotland (see section 5.4.1) and the most significant landings of cod, haddock, whiting, saithe and anglerfish come from the TR1 gear. The spatial patterns of cod and haddock landings are very similar but that for whiting somewhat different. For whiting, the statistical rectangles providing the greatest amount of landings are those contributing the least landings of cod and haddock.

Compared to cod, haddock and whiting, landings of saithe come more predominantly from the extreme north of the area, although at the resolution of the statistical rectangle there still appears considerable spatial overlap between catches of saithe and cod, haddock and whiting. For anglerfish the pattern of landings very much indicates a fishery mostly conducted at the shelf edge and on the continental slope. Again there are overlaps with cod and haddock but also a region at mid latitudes important for anglerfish but not so much for cod.

Landings of Nephrops are significant and predominantly by vessels using TR2 gear (see also Figure 5.4.2.1). Landings are taken from inshore areas with the highest declared landings from rectangles furthest south. This pattern very much reflects the spatial pattern of effort by TR2 gear (Figure 5.4.8.2).

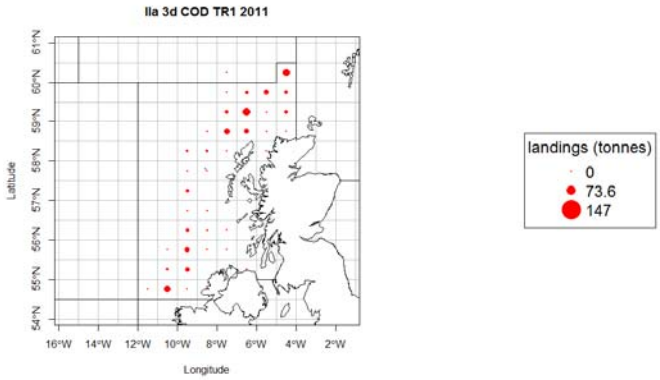


Figure 5.4.14.1 West of Scotland. Landings by rectangle of cod by vessels using TR1 gear.

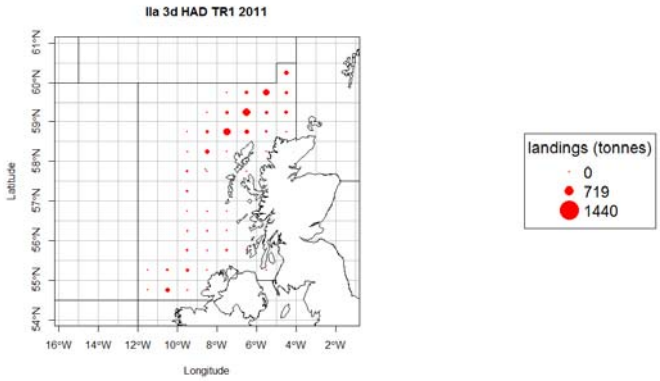


Figure 5.4.14.2 West of Scotland. Landings by rectangle of haddock by vessels using TR1 gear.

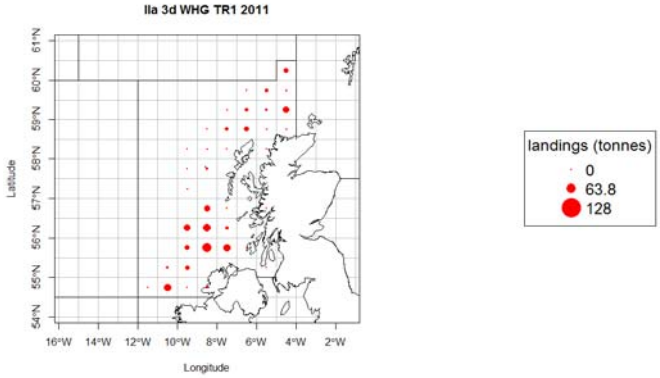


Figure 5.4.14.3 West of Scotland. Landings by rectangle of whiting by vessels using TR1 gear.

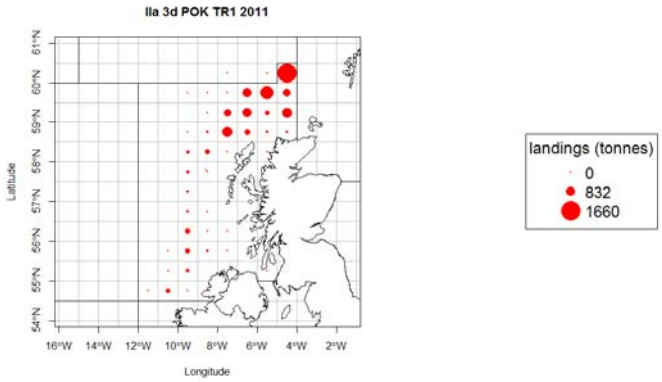


Figure 5.4.14.4 West of Scotland. Landings by rectangle of saithe by vessels using TR1 gear.

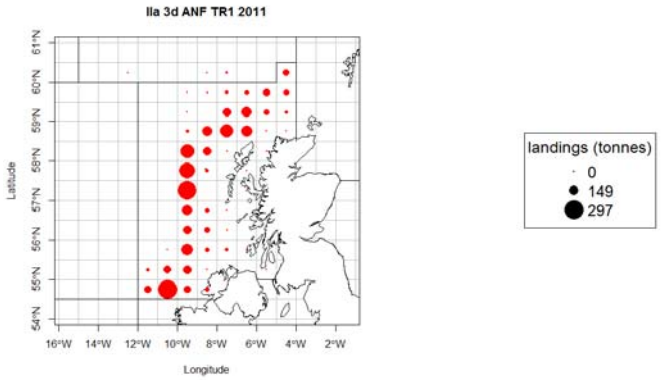


Figure 5.4.14.5 West of Scotland. Landings by rectangle of anglerfish by vessels using TR1 gear.

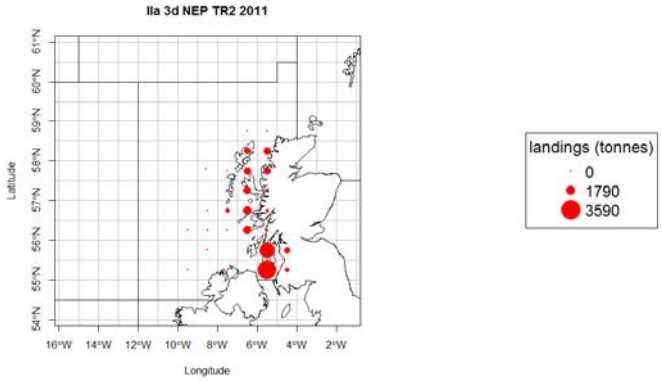


Figure 5.4.14.6 West of Scotland. Landings by rectangle of Nephrops by vessels using TR2 gear.

5.5 Irish Sea effort regime evaluation in the context of Annex IIA to Council Regulation (EC) No 57/2011)

5.5.1 ToR 1.a Fishing effort in kWdays, GTdays and number of vessels by Member State and fisheries

Effort within the Irish Sea has been compiled for kW*days-at-sea, GT*days-at-sea, and numbers of vessels. Within the report focus is on kW*Days at sea. Information on GT*days at sea and numbers of vessels is available via the website: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg06

The majority of submissions included only 2011 data, and therefore the remainder of the time series remains unchanged and consistent (Tables 5.5.1.1). Ireland however re-submitted the full time series due to ongoing improvements of records within the national logbook database. Within some categories/years this has resulted in large variation from those reported in 2011.

Tables 5.5.1.2 and 5.5.1.3 detail nominal effort, in kW*days-at-sea, by nation and then aggregated by gear and special condition according to Annex I of Coun. Reg. 1342/2008 (new cod plan). These tables show a 34% decline in Irish Sea nominal effort since 2000, which has been more gradual since 2004 (down 25%). In the most recent years, 2009-2011, overall effort has become more consistent, and actually increased in 2011.

In relation to effort by gear, discussions are primarily focused on data from 2003 onwards. This is due to the unavailability of Irish mesh size information prior to 2003 resulting in all Irish effort occurring within the 'none' category which encompasses unidentified effort and effort by gears and mesh sizes not regulated under the cod plan. See below for further description of this category.

Irish Sea fisheries are predominantly demersal trawling and seining (TR group), and until 2011 combined TR effort mirrored the overall effort trend (Figure 5.5.1.1). In the three most recent years the proportion of effort within the combined TR effort group has declined from an average of ~60% (2003-2008) to 49% in 2011 (excluding TR CPart11 effort). Within regulated gears, the TR group has accounted for over 80% of the effort in the last four years.

Within the TR group, the TR2 category (70-99mm mesh sizes) dominates (Table 5.5.1.3 and Figure 5.5.1.2), and effort had been relatively stable between 2003 and 2008. An effort reduction occurred in 2009, coinciding with the introduction of the current cod plan, since then effort has remained at the reduced level. The majority of TR2 effort is now carried out under Article 13 of Coun. Reg. 1342/2008 (CPart13; ~80-99% of TR2 effort). A small amount of effort previously incorporated in CPart13 became exempt from the cod plan effort restrictions under Article 11 of the regulation (CPart11) in 2010 (3%), doubling in 2011 to 6%. Effort within TR1 (≥100mm mesh sizes) is currently at a very low level. This group underwent a large decline in effort between 2003 and 2007, since then effort has continued to decline at a slow rate. The majority of TR1 effort is now assigned to CPart13 (~75-85%).

Beam trawling, solely BT2 in the Irish Sea, declined greatly between 2003 and 2008. The group has continued at a low level over the last three years (accounting for 10% of Irish Sea effort), and is currently indicating a slight increase (Table 5.5.1.3). Note, Belgium beam trawl effort within the Irish Sea contains assumed mesh sizes, as described in Section 4.

Of the remaining regulated gears, gillnetting occurs at very low levels <0.5% (Figure 5.5.1.1) while GT1 and LL1 show negligible effort accounting for less than 0.01% of total effort.

Category 'none none' represents gear types and mesh sizes not regulated by Coun. Reg. 1342/2008 effort restrictions. This category includes effort assigned to special condition CPart11 which is exempt from effort restrictions through the use of cod avoidance measures (discussed above).

A large proportion of the 'none none' group prior to 2003 was due to Irish effort reported without mesh size information. Once Irish mesh size information became available in 2003, the 'none' category decreased substantially. Effort within this category has increased over the last five years and currently accounts for

40% of Irish Sea effort. Recent increases results from increased dredge and pot activity (Figure 5.5.5.1). Low levels of effort also occur within the pelagic trawl category.

Table 5.5.1.1. Irish Sea relative differences in nominal effort (kW*days at sea) to 2012 submissions by Member State by Annex I, Coun. Reg. 1342/2008. Only those differing combinations are displayed. Sorted by gear, derogation (SPECON), and country.

ANNEX	REG AREA COD	REG GEAR COD	SPECON	VESSEL LENGTH	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
IIa	3c	POTS	none	O10T15M	IRL	0		0	0.349	0	0	0.933	0.053	0.001	0.016	-0.493
IIa	3c	POTS	none	O15M	IRL	0	0	0	0.434	0	0.116	0.234	0	0	0	
IIa	3c	GN1	none	O10T15M	IRL	0	0	0	0.611	0.131	0	0	0.154	0.062	0.096	-0.431
IIa	3c	TR2	none	O10T15M	IRL				0.216	0.063	0	0.166	0.159	0.008	0.003	-0.324
IIa	3c	DREDGE	none	O15M	IRL	0	0	0	0.137	0	0	0.005	0	0	0.03	-0.066
IIa	3c	TR1	none	O15M	IRL				0.062	0.175	0	0	0.008	0.009	0	-0.181
IIa	3c	PEL_TRAWL	none	O15M	IRL	0	0	0	0	0.043	0	0.02	0	0	0	-0.021
IIa	3c	BT2	none	O15M	IRL				0.099	0.008	0.006	0	0.001	0	0	-0.111
IIa	3c	DREDGE	none	O10T15M	IRL	0	0					0.202	0.04	0.046	0.043	-0.369
IIa	3c	GN1	none	O15M	IRL	0	0	0	0.057	0	0	0	0	-0.033	-0.067	-0.033
IIa	3c	TR2	none	O15M	IRL				0.031	0.03	0.007	-0.014	-0.013	-0.009	-0.015	-0.202
IIa	3c	TR1	none	O10T15M	IRL						0	0	0	0	0	-0.189
IIa	3c	PEL_TRAWL	none	O10T15M	IRL	0	0		0	0.367	-0.087	-0.012	0	0	0	-0.466
IIa	3c	TR2	CPART11	O15M	IRL											-0.315
IIa	3c	TR2	CPART13	O15M	IRL										-0.14	-0.296
IIa	3c	OTTER	none	O10T15M	IRL	0	0	0	0	0	0	0			0	-0.5
IIa	3c	LL1	none	O10T15M	IRL									0		-0.567

Table 5.5.1.2. Irish Sea trends in nominal effort (kW*days at sea) by gear groups of Annex I, Coun. Reg. 1342/2008 and Member State, 2000-2011. Sorted by gear, derogation (SPECON), and country. Data qualities are summarised in Section 4.

ANNEX	AREA	GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
IIa	3c	TR1	CPART13	SCO											1663	407
IIa	3c	TR1	CPART13	ENG										21860	25111	14364
IIa	3c	TR1	CPART13	NIR										384860	350609	171175
IIa	3c	TR1	none	FRA	116211	296262	1411907	264447	167253	180515	109174	67487	19701	19701	6668	6138
IIa	3c	TR1	none	IRL				381119	157955	87263	84550	141442	73625	60348	77897	56161
IIa	3c	TR1	none	NLD									442			
IIa	3c	TR1	none	SCO	111174	119211	84432	92516	32104	3889	3104					
IIa	3c	TR1	none	ENG	255172	363705	299745	399886	197351	94201	68905	16846	5932			
IIa	3c	TR1	none	NIR	1342936	1613525	1846273	2053909	1161889	872476	785380	340235	510151			
IIa	3c	TR1	none	IOM	21107	511	1204	9070	362	172		649	895			
IIa	3c	TR2	CPART13	IRL										30827	115391	838629
IIa	3c	TR2	CPART13	SCO										30815	17981	43748
IIa	3c	TR2	CPART13	ENG										171656	180844	161841
IIa	3c	TR2	CPART13	NIR										3097345	2777583	2674691
IIa	3c	TR2	CPART13	IOM										23022	23928	154907
IIa	3c	TR2	none	BEL					13541	43486	34052	76789	67534	29980	14283	28390
IIa	3c	TR2	none	FRA	25705	9827	4712	588		2352		810				
IIa	3c	TR2	none	IRL				1242769	1386883	1475114	1452830	1583605	1300696	806523	673682	
IIa	3c	TR2	none	SCO	64109	34258	18499	44655	93771	34416	7435	16808	21995			
IIa	3c	TR2	none	ENG	474125	336156	260431	211774	347848	287791	247447	244461	219456			
IIa	3c	TR2	none	NIR	3855689	3869187	2915651	3366613	3110597	3185141	2951782	3125387	3345023			
IIa	3c	TR2	none	GBJ	530											
IIa	3c	TR2	none	IOM	18286	24145	17282	18628	10826	27205	5427	29763	14592			
IIa	3c	TR3	none	DNK				992								
IIa	3c	TR3	none	IRL				900	90	3305	960		436			179
IIa	3c	TR3	none	ENG				134								
IIa	3c	BT2	none	BEL	1273518	1791577	2078795	1884843	1482831	1694567	1153947	956953	554841	624989	649225	660228
IIa	3c	BT2	none	IRL				860849	414446	514653	481404	550975	374494	173927	218054	211367
IIa	3c	BT2	none	NLD	206768		1750			5884						
IIa	3c	BT2	none	SCO								1074	1378			
IIa	3c	BT2	none	ENG	118613	193846	110672	172354	68579	161500	59199	31112	17349	5808	1598	41222
IIa	3c	BT2	none	GBJ	18484	22377	27803	40878	42260	3542						
IIa	3c	GN1	none	FRA						838						
IIa	3c	GN1	none	IRL	11031	27746	57472	92103	63069	26672	29531	47941	40957	22212	22162	20315
IIa	3c	GN1	none	NLD		660					161					
IIa	3c	GN1	none	SCO						895						
IIa	3c	GN1	none	ENG	22741	12716	12438	14872	12326	10011	8378	3930	4297	684	2260	3602
IIa	3c	GN1	none	NIR	1332	2442	4329		222					2140		
IIa	3c	GT1	none	IRL									1327	1237		
IIa	3c	GT1	none	ENG	523						475	656	1066	2788	984	1476
IIa	3c	LL1	none	FRA			1200									
IIa	3c	LL1	none	IRL		955			800				24199		611	146
IIa	3c	LL1	none	SCO		13284		3247								
IIa	3c	LL1	none	ENG	180243	171126	86688	44138	58414	93773	59656	12238	840	924		1543
Total of regulated gears					**8118297**	**8903516**	**9241283**	**11201284**	**8823417**	**8809661**	**7543797**	**7249161**	**6601226**	**5511646**	**5160534**	**5090529**
IIa	3c	none	none	BEL		6808		528					53686		41044	59791
IIa	3c	none	none	FRA				1694				906	2844	2844	1180	4982
IIa	3c	none	none	IRL	3272681	2864252	2912408	611981	830250	417215	436077	445217	396694	432429	627177	672549
IIa	3c	none	none	NLD	3960	7428	4412		14520	12797	525	4725	54075	17118	3960	
IIa	3c	none	none	SCO	703739	1003811	805622	901594	725105	807055	603817	940517	1260522	1371630	1013635	1085741
IIa	3c	none	none	ENG	350180	417861	584819	648435	546205	596426	690431	590740	508704	443313	478027	480676
IIa	3c	none	none	NIR	296728	332759	237965	303426	256628	249139	274800	300976	352645	325338	335529	418379
IIa	3c	none	none	GBJ	113032	33456	72836	74180	76378	17726	11996	35952	53928	78825	62274	52172
IIa	3c	none	none	IOM	11127	7319	7564	10154	6782	5194	10315	13983	47908	32458	51603	341776
IIa	3c	none	none	GBG									397	11116	1119	
IIa	3c	TR2	CPART11	IRL											107511	231706
IIa	3c	TR2	CPART11	SCO											9055	
Total of unregulated gears					**4751447**	**4673694**	**4625626**	**2551992**	**2455868**	**2105552**	**2027961**	**2333016**	**2731403**	**2715071**	**2732114**	**3347772**
Overall total					**12869744**	**13577210**	**13866909**	**13753276**	**11279285**	**10915213**	**9571758**	**9582177**	**9332629**	**8226717**	**7892648**	**8438301**

Table 5.5.1.3 Trend in nominal effort (kW*days at sea) by effort group (Coun. Reg. 1342/2008), 2000-2011.

Annex	REG AREA	REG GEAR	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Relative change to 2004	Relative change to 2009
IIa	3c	TR1	CPART13										406720	377383	185946		-0.54
IIa	3c	TR1	none	1846600	2393214	3643561	3200947	1716914	1238516	1051113	566659	610746	80049	84565	62299	-0.96	-0.22
IIa	**3c**	**TR1 Total**		**1846600**	**2393214**	**3643561**	**3200947**	**1716914**	**1238516**	**1051113**	**566659**	**610746**	**486769**	**461948**	**248245**	**-0.86**	**-0.49**
IIa	3c	TR2	CPART13										3353665	3115727	3873816		0.16
IIa	3c	TR2	none	4438444	4273573	3216575	4885027	4963466	5055505	4698973	5077623	4969296	836503	687965	28390	-0.99	-0.97
IIa	**3c**	**TR2 Total**		**4438444**	**4273573**	**3216575**	**4885027**	**4963466**	**5055505**	**4698973**	**5077623**	**4969296**	**4190168**	**3803692**	**3902206**	**-0.21**	**-0.07**
IIa	3c	TR3	none				2026	90	3305	960		436			179		
IIa	**3c**	**TR3 Total**					**2026**	**90**	**3305**	**960**		**436**			**179**	**0.99**	
IIa	3c	BT2	none	1617383	2007800	2219020	2958924	2008116	2380146	1694550	1540114	948062	804724	868877	912817		
IIa	**3c**	**BT2 Total**		**1617383**	**2007800**	**2219020**	**2958924**	**2008116**	**2380146**	**1694550**	**1540114**	**948062**	**804724**	**868877**	**912817**	**-0.55**	**0.13**
IIa	3c	GN1	none	35104	43564	74239	106975	75617	38416	38070	51871	45254	25036	24422	23917		
IIa	**3c**	**GN1 Total**		**35104**	**43564**	**74239**	**106975**	**75617**	**38416**	**38070**	**51871**	**45254**	**25036**	**24422**	**23917**	**-0.68**	**-0.04**
IIa	3c	GT1	none	523						475	656	2393	4025	984	1476		
IIa	**3c**	**GT1 Total**		**523**						**475**	**656**	**2393**	**4025**	**984**	**1476**		**-0.63**
IIa	3c	LL1	none	180243	185365	87888	47385	59214	93773	59656	12238	25039	924	611	1689		
IIa	**3c**	**LL1 Total**		**180243**	**185365**	**87888**	**47385**	**59214**	**93773**	**59656**	**12238**	**25039**	**924**	**611**	**1689**	**-0.97**	**0.83**
IIa	**3c**	**none**	**none**	**4751447**	**4673694**	**4625626**	**2551992**	**2455868**	**2105552**	**2027961**	**2333016**	**2731403**	**2715071**	**2615548**	**3116066**	**0.27**	**0.15**
IIa	3c	TR2	CPART11											116566	231706		
IIa	3c	None Total		4751447	4673694	4625626	2551992	2455868	2105552	2027961	2333016	2731403	2715071	2732114	3347772	**0.36**	**0.23**
Grand Total				**12869744**	**13577210**	**13866909**	**13753276**	**11279285**	**10915213**	**9571758**	**9582177**	**9332629**	**8226717**	**7892648**	**8438301**	**-0.25**	**0.03**

Table 5.5.1.4. Irish Sea trends in unregulated effort (kW*days at sea), according to Annex 1 of Con. Reg. 1342/2008, by major gear type, 2000-2011.

Annex	Area	REG GEAR	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
IIa	3c	BEAM	IRL	792416	652385	772223	23853	159015							
IIa	3c	BEAM	ENG	13534	17018	7906	7360	1966	25324	8221	8992	26350	9124	1788	988
IIa	3c	BEAM	NIR									3639	370		
IIa	3c	DEM_SEINE	IRL	23180	27798	26993		759							
IIa	3c	DEM_SEINE	ENG							142					
IIa	3c	DREDGE	BEL									53686		41044	59791
IIa	3c	DREDGE	FRA											251	4401
IIa	3c	DREDGE	IRL	327890	266554	275994	413698	342029	170130	151968	223441	176175	197563	282282	355481
IIa	3c	DREDGE	NLD							525	4725	54075	17118		
IIa	3c	DREDGE	SCO	654669	856495	802542	894237	724139	777598	572146	905327	1226238	1276319	928322	1011689
IIa	3c	DREDGE	ENG	266534	289651	276745	225232	197412	196296	313285	239832	267755	213853	254895	325412
IIa	3c	DREDGE	NIR	153565	212033	120708	135202	137511	111692	99662	118382	145810	114896	134209	188095
IIa	3c	DREDGE	GBJ	47760		8192	2968								
IIa	3c	DREDGE	IOM	11127	7319	7378	8573	5387	5194	9987	13983	17732	32458	51603	304432
IIa	3c	none	FRA								906				
IIa	3c	none	IRL		709							96			
IIa	3c	none	SCO						2130						
IIa	3c	OTTER	BEL		6808		528								
IIa	3c	OTTER	IRL	1988191	1768311	1767545	24648	99895	4109	3940			455	2380	291
IIa	3c	OTTER	NLD	3960		4412									
IIa	3c	OTTER	SCO				5792	966		414				828	
IIa	3c	OTTER	ENG	246		342	62	76	1416	112	820				188
IIa	3c	OTTER	NIR				696		179	4022			570	3120	
IIa	3c	OTTER	IOM												179
IIa	3c	PEL_SEINE	FRA				1694								285
IIa	3c	PEL_SEINE	IRL				560	5872							
IIa	3c	PEL_SEINE	NIR	20940	22729	29223	45458	22042	61552	34310		1131			
IIa	3c	PEL_TRAWL	FRA											792	
IIa	3c	PEL_TRAWL	IRL	112207	107654	31338	48375	146806	127361	59473	24970	13968	5569	70492	38999
IIa	3c	PEL_TRAWL	NLD		7428			14520	12797					3960	
IIa	3c	PEL_TRAWL	SCO		95622	1033			14700						
IIa	3c	PEL_TRAWL	ENG			23040	12729		7200					13440	
IIa	3c	PEL_TRAWL	NIR	54243	35078	57566	87890	65982	49486	93380	140424	104430	92084	108198	167634
IIa	3c	POTS	FRA									2844	2844	137	296
IIa	3c	POTS	IRL	28797	40841	38315	100847	75874	115615	220696	196806	206455	228842	272023	277778
IIa	3c	POTS	SCO	49070	51694	2047	1565		12627	31257	35190	34284	95311	84485	74052
IIa	3c	POTS	ENG	69866	111192	276786	403052	346751	366190	368671	341096	214599	220336	207904	154088
IIa	3c	POTS	NIR	67980	62919	30468	34180	31093	26230	43426	42170	97635	117418	90002	62650
IIa	3c	POTS	GBJ	65272	33456	64644	71212	76378	17726	11996	35952	53928	78825	62274	52172
IIa	3c	POTS	IOM			186	1581	1395		328		30176			37165
IIa	3c	POTS	GBG									397	11116	1119	
IIa	3c	TR2	IRL											107511	231706
IIa	3c	TR2	SCO											9055	
Grand Total				4751447	4673694	4625626	2551992	2455868	2105552	2027961	2333016	2731403	2715071	2732114	3347772

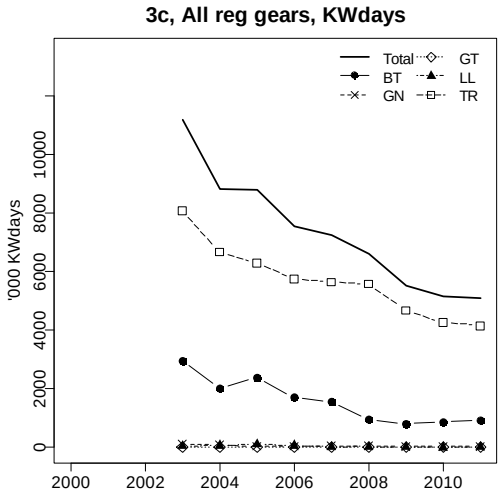


Figure 5.5.1.1. Irish Sea. Trend in regulated gear nominal effort (kW*days-at-sea) by Coun. Reg. 1342/2008, 2003-2011. N.B. CPart11 effort is excluded form this plot.

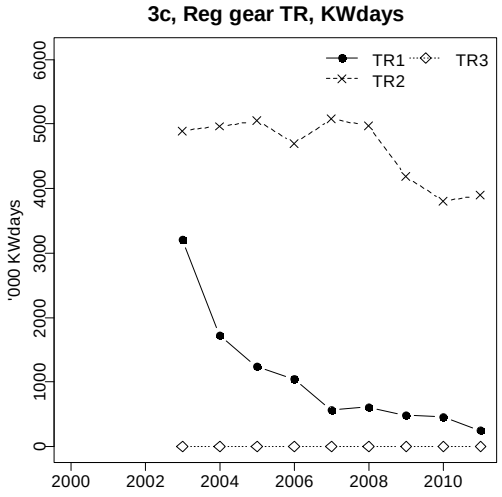


Figure 5.5.1.2. Irish Sea. Trend in regulated gear TR (demersal trawl and Danish seine) nominal effort (kW*days-at-sea) by Coun. Reg. 1342/2008, 2003-2011. N.B. CPart11 effort is excluded from this plot.

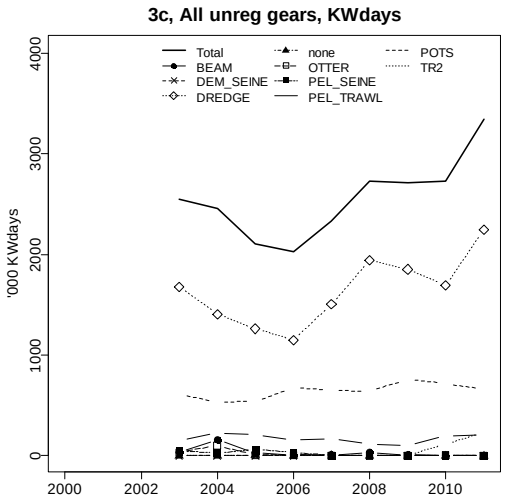


Figure 5.5.1.3. Irish Sea. Effort composition in kW*Days at sea for unregulated gears according to Coun. Reg. 1342/2008 (category none), 2000-2011. N.B. this plot contains TR2 CPart11 effort as TR2.

5.5.2 ToR 1.b and c Catches (landings and discards) of cod and non-cod species in weight and numbers at age by fisheries

Table 5.5.2.1 lists the landings and available discards for the main species by gear groups relating to Coun. Reg. 1342/2008. For the reason of space limitation of this report, the following sections represent the landings in weight and numbers for monkfish (ANF), cod (COD), haddock (HAD), hake, (HKE), Nephrops (NEP), plaice (PLE), saithe (POK), rays (RAJ), sole (SOL), and whiting (WHG). Additional data queries for other species may be provided depending on data provisions of the national catches by the experts or national institutes. The data given in the table forms the basis of Figure 5.5.2.1 displaying the relative landings compositions by gear groups for the years 2003-2011.

Discard information available within the Irish Sea is incomplete. Discard data is not available for all species and/or years within each gear grouping. TR2 and BT2 have the most complete data particularly in more recent years, for species like cod, haddock, hake, plaice, rays, and whiting. Availability of discard information is sporadic in TR1. No gillnet or longline discard information for the Irish Sea was provided to the group.

In relation to overall landings by species, Nephrops dominate Irish Sea landings and have been above 9kt since 2007, peaking in 2008 and 2011 with over 10kt. Plaice and anglerfish landings increased in 2011 following periods of decline. Haddock and sole have fluctuated in the last four years (~850t and 300t respectively). In addition, whiting landings have remained around the same level for the last three years (~105t). Cod landings have continued to follow the declining trend which began in 2009.

Below the primary gear categories with landings from the Irish Sea are discussed. As a first note, inaccurate area reporting of cod from ICES rectangles immediately north of the Irish Sea–Celtic Sea boundary (ICES rectangles 33E2 and 33E3) is known to be an issue for Ireland, with ICES division VIIg cod catches being reported into the southern Irish Sea. This primarily relates to gillnet and otter trawl gear types. WGCSE has reallocated cod from VIIa to the Celtic Sea for a number of years, ranging between ~50t and >500t annually since 2004. This inaccurate reporting has not been corrected for within the data provided to the EWG.

Nephrops are the primary focus of the TR2 category (Figure 5.5.2.1, note the figure excludes CPartII whose target species is Nephrops). Other components of the TR2 category occur at comparatively low levels, including cod, haddock, whiting, plaice, and anglerfish. This category has consistently accounted for around a third (26%-39%) of cod landings from ≥10m vessels. Discarding of haddock, plaice and whiting occurs within this gear category and can be high in some years.

The species composition of TR1, the larger mesh size group, is very different to TR2, containing virtually no Nephrops. Landings primarily consist of cod and haddock, with lower quantities of hake. A variety of other species occur at low levels including, plaice and whiting (Figure 5.5.2.1). Cod landings by this category have declined in recent years, accounting for around a third of cod landings in 2011. TR1 consistently accounts for the majority of both haddock and hake landings (>70% and >69% in the last two years respectively).

Beam trawls operating within the Irish Sea belong solely to the BT2 (80-119mm) category. Belgium (and the Netherlands) beam trawls are assumed to have used the minimum mesh size group 80-89mm (Sec. 4). No assumptions are made for the remaining nations.

The species composition of this category is stable, dominated by sole, plaice, and rays. The proportion of the latter has increased over time. Plaice landings increased in 2011 whilst sole has been stable in most recent years (Figure 5.5.2.1). Low level landings of anglerfish, cod, and haddock (~5%, or less) are also landed. Cod landings by BT2 increased in 2011. Beam trawling accounts for over 50% of plaice landings, as well as the majority of sole landings (~90%) from vessels ≥10m. Although plaice is a target of this gear category, recent discard data shows between 30% and 40% of the catch is discarded, while <10% sole is thrown back.

The primary target of Irish Sea gillnets is cod, which dominate the low level landings (Figure 5.5.2.1). Although the main target of this gear category is cod, landings are low and in most years account for ≤15% of total Irish Sea cod landed. Landings from 2007 and 2008 were over double other years. Minimal levels of other species are landed.

Landings by unregulated gears within the Irish Sea (Table 5.5.2.2) have been minimal since 2005, in most cases <5t per year. Further more, unregulated gears show consistently low to zero landings of cod. Landings associated with the TR2 CPart11 category have high Nephrops landings with little to no landings of other species.

Cod numbers by age are not described or presented within this section, however values for this within the Irish Sea are available from the website.

Table 5.5.2.1 Irish Sea. Landings (t), discards (t) and discard rate by species and gear according to Coun. Reg. 1342/2008, 2004-2011. For landings, discards and discard rates by Country refer to the website.

ANNEX	REG_AREA	SPECIES	REG_GEAR	SPECON	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
IIa	3c	ANF	TR1	CPart13																2	0	0	3	0	0	2	0	0
IIa	3c	ANF	TR2	CPart13																91	0	0	64	5	0.07	158	2	0.01
IIa	3c	ANF	BT2	none	175	0	0	184	0	0	123	0	0	115	1	0.01	55	1	0.02	43	0	0	35	0	0	53	4	0.07
IIa	3c	ANF	GN1	none	5	0	0	4	0	0	4	0	0	0	0	0	1	0	0	0	0	0	6	0	0	0	0	0
IIa	3c	ANF	TR1	none	122	0	0	52	0	0	36	0	0	22	0	0	10	7	0.41	6	0	0	7	0	0	6	0	0
IIa	3c	ANF	TR2	none	255	2	0.01	219	13	0.06	243	19	0.07	274	5	0.02	202	1	0	62	0	0	47	1	0.02	2	0	0
IIa	3c	COD	TR1	CPart13																289	0	0	199	0	0	95	0	0
IIa	3c	COD	TR2	CPart13																96	0	0	88	247	0.74	165	7	0.04
IIa	3c	COD	BT2	none	125	0	0	156	0	0	78	0	0	107	20	0.16	31	1	0.03	18	6	0.25	40	15	0.27	71	37	0.34
IIa	3c	COD	GN1	none	117	0	0	55	0	0	131	0	0	329	0	0	392	0	0	78	0	0	78	0	0	70	0	0
IIa	3c	COD	GT1	none										1	0	0	1	0	0	1	0	0	2	0	0	1	0	0
IIa	3c	COD	LL1	none	1	0	0	2	0	0	3	0	0	1	0	0	12	0	0							0	0	0
IIa	3c	COD	TR1	none	445	10	0.02	374	1	0	416	0	0	339	0	0	468	0	0	74	0	0	43	0	0	66	0	0
IIa	3c	COD	TR2	none	397	85	0.18	371	38	0.09	309	6	0.02	427	13	0.03	311	307	0.5	89	5	0.05	122	3	0.02	3	0	0
IIa	3c	HAD	TR1	CPart13																333	0	0	481	0	0	275	0	0
IIa	3c	HAD	TR2	CPart13																106	77	0.42	114	926	0.89	147	798	0.84
IIa	3c	HAD	BT2	none	25	0	0	34	5	0.13	28	0	0	32	13	0.29	9	3	0.25	8	3	0.27	9	7	0.44	16	32	0.67
IIa	3c	HAD	GN1	none	9	0	0	3	0	0	7	0	0	11	0	0	4	0	0	17	0	0	6	0	0	7	0	0
IIa	3c	HAD	TR1	none	366	765	0.68	306	63	0.17	449	1	0	588	4	0.01	472	223	0.32	221	22	0.09	201	0	0	359	2	0.01
IIa	3c	HAD	TR2	none	262	1957	0.88	189	661	0.78	168	1272	0.88	441	466	0.51	387	675	0.64	149	1998	0.93	125	41	0.25	2	0	0
IIa	3c	HKE	TR1	CPart13																138	0	0	132	0	0	71	0	0
IIa	3c	HKE	TR2	CPart13																44	0	0	29	4	0.12	30	62	0.67
IIa	3c	HKE	BT2	none	5	0	0	7	0	0	3	0	0	4	0	0	1	0	0	1	0	0	1	0	0	0	0	0
IIa	3c	HKE	GN1	none	8	0	0	5	0	0	5	0	0	5	0	0	1	0	0	1	0	0	1	0	0	3	0	0
IIa	3c	HKE	TR1	none	231	18	0.07	208	21	0.09	173	0	0	80	0	0	183	0	0	3	0	0	5	0	0	2	0	0
IIa	3c	HKE	TR2	none	85	87	0.51	98	39	0.28	58	3	0.05	68	1	0.01	46	30	0.39	11	8	0.42	10	1	0.09	0	0	0
IIa	3c	NEP	TR1	CPart13																5	0	0	3	0	0	1	0	0
IIa	3c	NEP	TR2	CPart13																7235	0	0	6897	0	0	9418	0	0
IIa	3c	NEP	BT2	none	1	0	0	0	0	0	2	0	0	1	0	0				0	0	0	0	0	0	0	0	0
IIa	3c	NEP	GN1	none				9	0	0																		
IIa	3c	NEP	TR1	none	40	0	0	20	0	0	25	0	0	23	0	0	24	0	0	8	0	0	1	0	0	16	0	0
IIa	3c	NEP	TR2	none	7238	0	0	6936	0	0	7756	0	0	9377	0	0	10854	0	0	2314	0	0	1794	0	0	0	0	0
IIa	3c	PLE	TR1	CPart13																8	0	0	11	0	0	6	0	0
IIa	3c	PLE	TR2	CPart13																118	23	0.16	105	58	0.36	147	451	0.75
IIa	3c	PLE	BT2	none	549	0	0	689	0	0	413	0	0	263	110	0.29	182	100	0.35	212	110	0.34	175	102	0.37	385	263	0.41
IIa	3c	PLE	GN1	none	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IIa	3c	PLE	TR1	none	125	22	0.15	76	2	0.03	112	10	0.08	57	0	0	43	9	0.17	13	2	0.13	12	0	0	11	1	0.08
IIa	3c	PLE	TR2	none	369	706	0.66	409	1081	0.73	333	1203	0.78	378	190	0.33	261	618	0.7	45	299	0.87	38	101	0.73	29	0	0
IIa	3c	POK	TR1	CPart13																13	0	0	3	0	0	1	0	0
IIa	3c	POK	TR2	CPart13																0	0	0	1	0	0	0	1	1
IIa	3c	POK	BT2	none	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
IIa	3c	POK	GN1	none	25	0	0	3	0	0	4	0	0	10	0	0	1	0	0	1	0	0	1	0	0	1	0	0
IIa	3c	POK	TR1	none	173	64	0.27	64	14	0.18	20	0	0	3	0	0	9	0	0	0	0	0	2	0	0	4	0	0
IIa	3c	POK	TR2	none	20	0	0	16	0	0	3	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0
IIa	3c	RAJ	TR2	CPart13																0	0	0	2	7	0.78	158	42	0.21
IIa	3c	RAJ	BT2	none	125	0	0	372	0	0	259	0	0	349	0	0	289	236	0.45	219	305	0.58	370	356	0.49	362	496	0.58
IIa	3c	RAJ	GN1	none	3	0	0	28	0	0	1	0	0	0	0	0	4	0	0	2	0	0	15	0	0	3	0	0
IIa	3c	RAJ	GT1	none													2	0	0	1	0	0						
IIa	3c	RAJ	TR1	none	160	0	0	120	0	0	98	0	0	73	0	0	51	717	0.93	47	0	0	103	0	0	50	8	0.14
IIa	3c	RAJ	TR2	none	340	6	0.02	348	17	0.05	297	1	0	307	7	0.02	156	2	0.01	98	11	0.1	130	42	0.24	1	0	0
IIa	3c	SOL	TR2	CPart13																13	0	0	8	0	0	27	0	0
IIa	3c	SOL	BT2	none	657	0	0	801	0	0	516	0	0	401	13	0.03	276	24	0.08	290	15	0.05	248	11	0.04	285	10	0.03
IIa	3c	SOL	TR1	none	7	0	0	6	0	0	3	0	0	3	0	0	1	0	0	2	0	0	1	0	0	1	0	0
IIa	3c	SOL	TR2	none	30	0	0	36	3	0.08	42	24	0.36	77	0	0	38	1	0.03	15	0	0	14	3	0.18	10	0	0
IIa	3c	WHG	TR1	CPart13																6	0	0	5	0	0	1	0	0
IIa	3c	WHG	TR2	CPart13																6	60	0.91	11	740	0.99	16	475	0.97
IIa	3c	WHG	BT2	none	14	0	0	12	14	0.54	4	13	0.76	5	3	0.38	2	14	0.88	2	6	0.75	4	9	0.69	3	37	0.92
IIa	3c	WHG	GN1	none	6	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0
IIa	3c	WHG	TR1	none	72	830	0.92	40	24	0.38	19	2	0.1	90	5	0.05	47	14	0.23	52	226	0.81	48	0	0	85	2	0.02
IIa	3c	WHG	TR2	none	82	2013	0.96	104	354	0.77	61	1974	0.97	99	821	0.89	28	1489	0.98	26	1584	0.98	51	171	0.77	0	0	0

Table 5.5.2.2 Irish Sea. Landings (t), discards (t) and discard rate of unregulated gear (category none) associated with Coun. Reg. 1342/2008 by species and gear, including special condition CPart11. For landings, discards and discard rates by Country refer to the website.

ANNEX	REG_AREA	SPECIES	REG_GEAR	SPECON	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
IIa	3c	ANF	BEAM	none	12	0	0											0	0	0								
IIa	3c	ANF	DREDGE	none	3	0	0	2	0	0	1	0	0	3	0	0	0	0	0				0	0	0	0	24	1
IIa	3c	ANF	none	none										9	0	0												
IIa	3c	ANF	OTTER	none	6	0	0	0	0	0	0	0	0								0	0	0	0	0	0		
IIa	3c	ANF	PEL_SEINE	none	0	0	0																					
IIa	3c	ANF	PEL_TRAW	none	9	0	0				0	0	0	0	0	0										0	0	0
IIa	3c	ANF	POTS	none	2	0	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IIa	3c	COD	BEAM	none	8	0	0										0	0	0									
IIa	3c	COD	DREDGE	none	1	0	0	0	0	0	0	0	0								0	0	0			0	1	1
IIa	3c	COD	OTTER	none	9	0	0				0	0	0								0	0	0			0	0	0
IIa	3c	COD	PEL_SEINE	none	1	0	0																					
IIa	3c	COD	PEL_TRAW	none	2	0	0							0	0	0										0	0	0
IIa	3c	COD	POTS	none	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
IIa	3c	COD	TR2	CPART11																			0	0	0	0	1	1
IIa	3c	HAD	BEAM	none	5	0	0																					
IIa	3c	HAD	DEM_SEINI	none	2	0	0																					
IIa	3c	HAD	DREDGE	none	0	0	0				0	0	0													0	2	1
IIa	3c	HAD	OTTER	none	15	0	0				0	0	0								0	0	0			0	0	0
IIa	3c	HAD	PEL_SEINE	none	2	0	0																					
IIa	3c	HAD	PEL_TRAW	none	2	0	0							0	0	0												
IIa	3c	HAD	POTS	none	6	1	0.14							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IIa	3c	HAD	TR2	CPART11																			0	6	1	0	80	1
IIa	3c	HKE	OTTER	none	1	0	0				0	0	0								0	0	0					
IIa	3c	HKE	PEL_TRAW	none	1	0	0																					
IIa	3c	HKE	POTS	none	1	4	0.8							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IIa	3c	HKE	TR2	CPART11																			0	0	0	0	3	1
IIa	3c	NEP	BEAM	none													0	0	0	2	0	0						
IIa	3c	NEP	DREDGE	none	1	0	0				0	0	0							0	0	0						
IIa	3c	NEP	OTTER	none	211	0	0	0	0	0	5	0	0	0	0	0				1	0	0	2	0	0	0	0	0
IIa	3c	NEP	PEL_SEINE	none	26	0	0										3	0	0									
IIa	3c	NEP	PEL_TRAW	none	7	0	0				1	0	0	3	0	0										7	0	0
IIa	3c	NEP	POTS	none	42	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0				1	0	0
IIa	3c	NEP	TR2	CPART11																			493	0	0	944	0	0
IIa	3c	PLE	BEAM	none	30	0	0																					
IIa	3c	PLE	DREDGE	none	4	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1
IIa	3c	PLE	OTTER	none	5	0	0	1	0	0	0	0	0	0	0	0					0	0				0	0	0
IIa	3c	PLE	PEL_TRAW	none	6	0	0							0	0	0												
IIa	3c	PLE	POTS	none	1	4	0.8	0	0	0							0	0	0	0	0	0				0	0	0
IIa	3c	PLE	TR2	CPART11																			0	11	1	1	34	0.97
IIa	3c	POK	DREDGE	none	1	0	0																					
IIa	3c	POK	PEL_TRAW	none	1	0	0																					
IIa	3c	POK	POTS	none	2	0	0																					
IIa	3c	RAJ	BEAM	none	147	0	0																					
IIa	3c	RAJ	DREDGE	none	9	0	0	7	0	0	1	0	0													0	45	1
IIa	3c	RAJ	OTTER	none	18	0	0						0			0										0	0	0
IIa	3c	RAJ	PEL_SEINE	none																								
IIa	3c	RAJ	PEL_TRAW	none	21	0	0							0	0	0										0	0	0
IIa	3c	RAJ	POTS	none	2	0	0	0	0	0	0	0	0				5	0	0	2	0	0	2	0	0			
IIa	3c	RAJ	TR2	CPART11																			0	6	1	0	3	1
IIa	3c	SOL	BEAM	none	8	0	0																					
IIa	3c	SOL	DREDGE	none	2	0	0	4	0	0	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	1
IIa	3c	SOL	OTTER	none	0	0	0	0	0	0	0	0	0	0	0	0					0	0	0	0	0	0	0	0
IIa	3c	WHG	OTTER	none	11	0	0														0	0				0	0	0
IIa	3c	WHG	PEL_TRAW	none	4	0	0																					
IIa	3c	WHG	POTS	none	1	24	0.96			0	0	0	0								0	0	0	0	0	0	0	0
IIa	3c	WHG	TR2	CPART11																			0	24	1	0	88	1

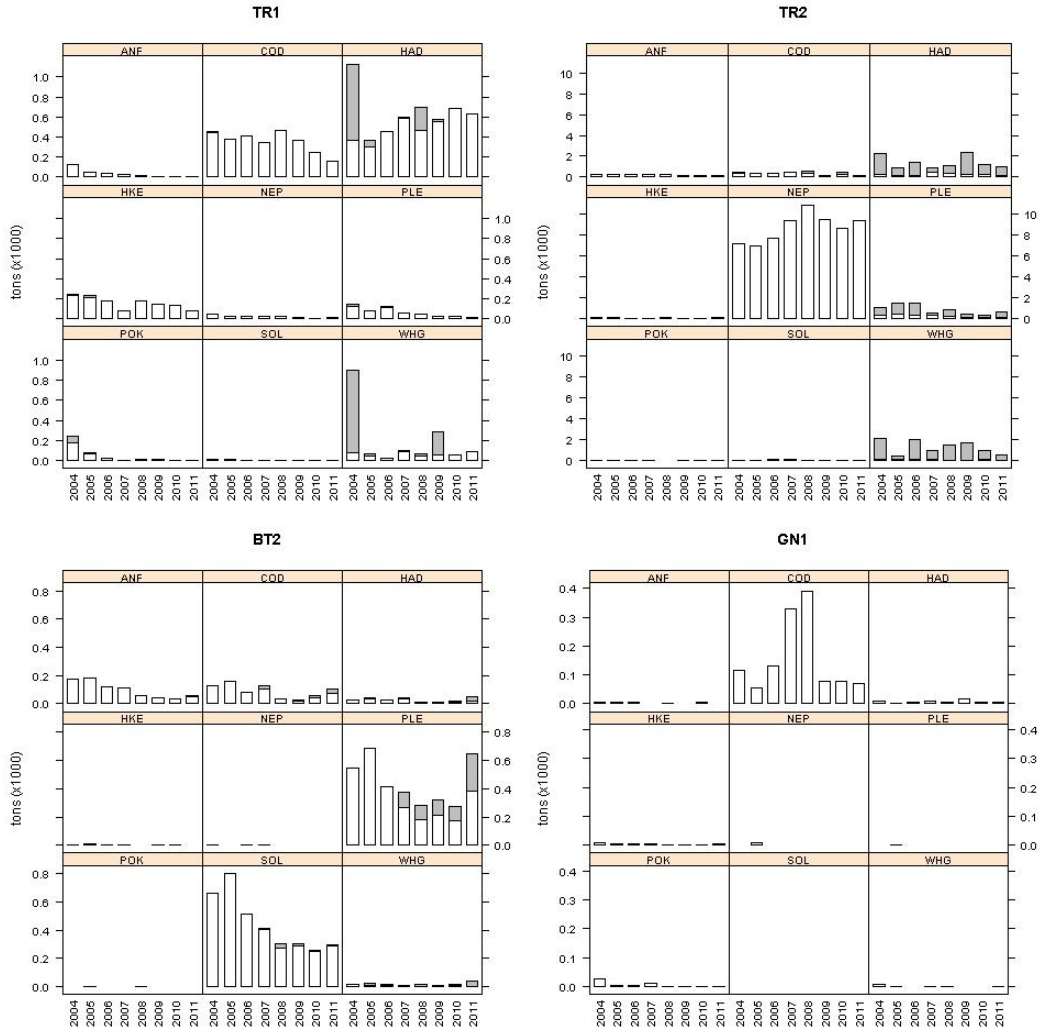


Figure 5.5.2.1 Irish Sea. Landings (t) by gear according to Coun. Reg. 1342/2008 and species, 2004-2011. N.B. CPart11 effort is excluded form this plot.

5.5.3 ToR 1.d CPUE and LPUE of cod by fisheries and by Member States

Only a LPUE (landings per unit effort) time series is presented for cod (Table 5.5.3.1) as discard data is not consistently available for all years or all categories, resulting in distorted CPUE trends. Catch per unit effort may be available for some years/gears on request. The units used are grams per kW days-at-sea (g/kW*days). Gear groups with little effort, and static gears where the use of kW*days-at-sea as an appropriate indication of effort is debatable, may have unrepresentative values and are not discussed.

Cod LPUE values are highest within the GN1 category, which peaked in 2007-2008 (Table 5.5.3.1 and Figure 5.5.3.1). However, this category may have unrepresentative values given the effort uncertainty, which may also be the explanation for the large LL1 LPUE in 2008.

Cod LPUE values are highest within the GN1 category, which peaked in 2007-2008 (Table 5.5.3.1 and Figure 5.5.3.1). Ireland is the primary nation influencing this trend. However, this category may have unrepresentative values given the effort uncertainty, which may also be the explanation for the large LL1 LPUE in 2008. Further more, in some years area misreporting by Irish cod gillnetters has been an issue in the Irish Sea, likely to result in false inflation of the LPUE for this gear grouping.

Tables showing LPUE and CPUE by gear groups (regulated and unregulated), area and nation are not presented in this report but are available on the JRC website:

http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

The most significant cod landings and effort occur within demersal trawl and seine categories TR1 and TR2. Over the period TR1 LPUE had increased until dropping in 2010. LPUE increased again in 2011. The lower and more stable LPUE of TR2 has shown greater fluctuations in most recent years. TR2 by special condition shows the majority of LPUE stems from the now small none group.

Table 5.5.3.1 Irish Sea. Cod LPUE (g/(kW*days)) by gear group according to Coun. Reg. 1342/2008 and year, 2003-2011. CPUE data is limited, but can be made available if requested.

					2003	2004	2005	2006	2007	2008	2009	2010	2011	2009-2011
IIa	COD	3c	TR1	CPART13	0	0	0	0	0	0	713	527	511	602
IIa	COD	3c	TR1	none	177	259	302	394	596	766	912	508	1059	802
IIa	COD	3c	TR2	CPART13	0	0	0	0	0	0	29	28	43	34
IIa	COD	3c	TR2	none	85	80	74	65	84	63	106	177	106	138
IIa	COD	3c	BT2	none	83	62	66	46	70	33	24	46	78	50
IIa	COD	3c	GN1	none	869	1547	1432	3441	6362	8640	3116	3194	2969	3094
IIa	COD	3c	GT1	none	0	0	0		1524	418	248	2033	678	617
IIa	COD	3c	LL1	none	21	17	21	50	82	479	0	0	0	0
IIa	COD	3c	TR2	CPART11	0	0	0	0	0	0	0	0	0	0

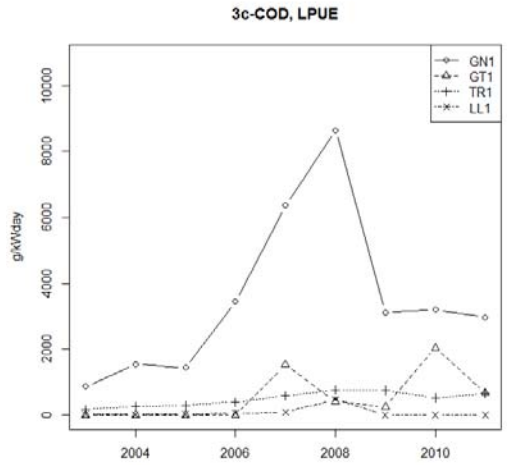


Figure 5.5.3.1. Irish Sea. Trends in cod LPUE (g/kW*days) by the average top four gear groups associated with Coun. Reg. 1342/2008, 2003-2011.

5.5.4 ToR 2 Rank regulated gear groups on the basis of catches expressed both in weight and in number of cod

Ranked landings (Table 5.5.4.1) in weight for cod have been used. Catch rankings have not been presented as discard data are not consistently available for all years or all categories introducing bias into the ranking. Information on ranked catches may be available on request.

Over the majority of the period, TR1 land the greatest proportion of cod (~40%), however this changed in 2011 when the proportion dropped to 35%, following a declining trend, to just below TR2. This placed TR2 as the top ranked gear in 2011 although demonstrating little change to 2010 proportions. Further more, the BT2 contribution increased in 2011 to 15%, just overtaking that of GN1 (0.2% lower) which for the previous 5 years had ranked third.

In the average ranking (2009-2011), the previous order of TR1, TR2, GN1 and BT2 remains unchanged.

Table 5.5.4.1 Irish Sea. Ranked derogations according to relative cod landings in weight (t), 2003-2011. Ranking is according to the year 2011. N.B. CPart11 effort is excluded from this plot.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	Average 2009-2011
IIa	3c	COD	TR2	0.31396	0.3659	0.38727	0.32978	0.35465	0.25597	0.28682	0.36713	0.35669	0.34
IIa	3c	COD	TR1	0.42868	0.41014	0.3904	0.44397	0.28156	0.38519	0.56279	0.42308	0.34183	0.44
IIa	3c	COD	BT2	0.18642	0.11521	0.16284	0.08324	0.08887	0.02551	0.02791	0.06993	0.15074	0.08
IIa	3c	COD	GN1	0.07019	0.10783	0.05741	0.13981	0.27326	0.32263	0.12093	0.13636	0.14862	0.14
IIa	3c	COD	GT1					0.00083	0.00082	0.00155	0.0035	0.00212	0.00
IIa	3c	COD	LL1	0.00075	0.00092	0.00209	0.0032	0.00083	0.00988			0	0.00
IIa	3c	COD	TR3			0						0	0.00

5.5.5 ToR 3 Remarks on quality of catches and discard estimates

Discard information is scarce for a number of gear categories. Where discard data is available it is considered to be highly variable and inaccurate.

5.5.6 ToR 4 Information on small boats (<10m)

It should be noted that under 10m vessels are not required to report effort levels in the same way as larger vessels. As such not all nations operating within the Irish Sea have been able to provide this information. Presented is information from England (including Northern Ireland) and Scotland. The methodology for production of this data may vary between nations. For details, refer to the national data descriptions in Section 4.

5.5.6.1 Fishing effort of small boats by Member State

The majority of effort by the under 10m vessels reported here is directed at pots and traps (Table 5.5.6.1.1). The effort levels increased greatly in 2006 due to the introduction of buyers and sellers notes into the UK who have used these to estimate effort. Effort in this group dropped during 2009 and 2010, increasing again in 2011. Dredge effort has been increasing in recent years. TR2 gear is also utilised within the Irish Sea at fluctuating levels well below pots.

Table 5.5.6.1.1. Irish Sea trends in nominal effort (kW*days at sea) of under 10m vessels by gear groups of Annex I, Coun. Reg. 1342/2008 and unregulated gears, 2000-2011. National data qualities are summarised in Section 4.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TR1	7970	13615	17628	14260	2043	2747	1624	3313	6692	4523	2837	6309
TR2	158716	173141	138478	167801	221123	240943	209409	234762	276763	284805	163444	213884
BT2	1120	6240	2424	1718	2354	9504	10855	2888	1942	627	623	178
GN1	14176	13581	16521	13223	14377	10944	10940	34179	45371	34397	25422	26031
GT1							78	22	424	9	330	4301
LL1						3213	10348	6469	3656	4347	4554	22857
none	23	23		23	30	30	37	455	437	6		726
BEAM	11390	112		414	11750	327	2603	8877	6010	3142	7029	4228
DEM_SEINE										662		75
DREDGE	45045	40805	19222	18631	18749	11709	45984	61441	165152	110014	114208	159976
OTTER	213	246	316	119			311	295	75		637	
PEL_SEINE									142			
POTS	232901	162788	167241	237901	294195	296227	1079422	1130565	1024692	658136	547656	840667
Grand Total	471554	410551	361830	454090	564621	575644	1371611	1483266	1531356	1100668	866740	1279232

5.5.6.2 Catches (landings and discards) of cod and associated species by small boats by Member State

Table 5.5.6.2.1 provides landing, discard and discard rate data for vessels under 10m, including data from Ireland, England (inc Northern Ireland), and Scotland, for the main species. Irish under 10 meter vessel landings are not recorded by gear type, therefore falling into the "none" category. Under 10m vessels in the Irish Sea land edible crab (CRE) in the greatest quantity, previously over 1,000t per year. This was substantially lower in 2009 and 2010. Scallops, Nephrops, herring and spider crabs dominate the remainder of landings reported to the group. Comparatively small, and variable quantities of cod are landed, ~30t in 2010 and 2011. Where gear type is available, landings primarily originate from pots, TR2, and dredges, Irish under 10m vessels are likely to employ a similar gear distribution.

Of all Irish Sea cod landings, 89-99% stem from regulated gears, the remainder originate primarily from under 10m vessels. In recent years, <1% of landings come from unregulated ≥10m vessels.

Table 5.5.6.2.1. Irish Sea. Landings (t), discards (t) and discard rate by species and gear according to Coun. Reg. 1342/2008 categories for under 10m vessels, 2004-2011. For landings, discards and discard rates by Country refer to the website. N.B. this table contains a select list of species.

SPECIES	REG_GEAR	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
ANF	TR2	4	0	0	3	0	0	7	0	0	2	0	0	5	0	0	5	0	0	1	0	0	1	0	0
ANF	none	17	0	0							0	0	0				8	0	0	8	0	0	7	0	0
ANF	DREDGE													0	0	0	1	0	0	0	0	0			
COD	TR1			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COD	TR2	5	0	0	4	0	0	6	0	0	6	0	0	4	0	0	4	0	0	1	0	0	1	0	0
COD	GN1	0	0	0	2	0	0	2	0	0	2	0	0	1	0	0	0	0	0	0	0	0	1	0	0
COD	none	62	0	0			0			0	4	0	0	1	0	0	75	0	0	28	0	0	28	0	0
CRE	TR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0
CRE	GN1	0	0	0	0	0	0	0	0	0	13	0	0	9	0	0	5	0	0	1	0	0	2	0	0
CRE	GT1													1	0	0									
CRE	none	1029	0	0	1107	0	0	70	0	0	293	0	0	262	0	0	251	0	0	684	0	0	1117	0	0
CRE	DREDGE													0	0	0	1	0	0	0	0	0			
CRE	POTS	174	0	0	166	0	0	988	0	0	1233	0	0	806	0	0	120	0	0	115	0	0	222	0	0
HAD	TR2	1	0	0	0	0	0	3	0	0	2	0	0	2	0	0	2	0	0	1	9	0.9	1	0	0
HAD	none	63	0	0							0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
HKE	TR2	1	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
HKE	none	24	0	0										0	0	0				1	0	0	0	0	0
NEP	TR2	222	0	0	249	0	0	415	0	0	290	0	0	399	0	0	366	0	0	316	0	0	379	0	0
NEP	GN1										0	0	0				2	0	0						
NEP	none	18	0	0							1	0	0				1	0	0	2	0	0	16	0	0
NEP	POTS	1	0	0	4	0	0	13	0	0	14	0	0	15	0	0	104	0	0	2	0	0	0	0	0
PLE	TR1	5	0	0	2	0	0	1	0	0	3	0	0	6	0	0	3	0	0	4	0	0	1	0	0
PLE	TR2	35	0	0	70	0	0	57	0	0	93	0	0	64	0	0	53	0	0	26	2	0.07	10	0	0
PLE	BT2	0	0	0	14	0	0	16	0	0	3	0	0	2	0	0									
PLE	GN1	2	0	0	3	0	0	2	0	0	6	0	0	2	0	0	2	0	0	3	0	0	2	0	0
PLE	none	11	0	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLE	BEAM				1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLE	POTS				0	0	0				0	0	0				0	0	0				1	0	0
POK	none	16	0	0							0	0	0	0	0	0	0	0	0				0	0	0
RAJ	none	35	0	0							2	0	0	28	0	0	13	0	0	19	0	0	13	0	0
SCE	TR2							0	0	0	0	0	0	0	0	0	5	0	0	2	0	0	1	0	0
SCE	GN1																1	0	0						
SCE	none	0	0	0										36	0	0	3	0	0	2	0	0	58	0	0
SCE	DREDGE	27	0	0	21	0	0	59	0	0	115	0	0	586	0	0	555	0	0	602	0	0	928	0	0
SCE	POTS										2	0	0	3	0	0	2	0	0	0	0	0			
SCR	GN1							2	0	0	6	0	0	38	0	0	14	0	0	7	0	0	13	0	0
SCR	none	55	0	0	20	0	0										119	0	0	179	0	0	85	0	0
SCR	DREDGE							5	0	0	0	0	0	1	0	0	0	0	0						
SCR	POTS							61	0	0	84	0	0	82	0	0	73	0	0	77	0	0	68	0	0
SOL	TR2	1	0	0	1	0	0	2	0	0	5	0	0	4	0	0	2	0	0	1	0	0	4	0	0
SOL	BT2	1	0	0	8	0	0	9	0	0	1	0	0	1	0	0			0			0			0
SOL	GN1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0
SOL	none	2	0	0							0	0	0				0	0	0				0	0	0
WHG	TR2	0	3	1	0	0	0	0	0	0	0	1	1	3	387	0.99	9	0	0	0	14	1	0	0	0
WHG	BT2	0	0	0	0	1	1	0	1	1															
WHG	none	15	0	0										0	0	0	0	0	0				1	0	0
WIT	TR2	4	0	0	2	0	0	2	0	0	1	0	0	1	0	0	1	0	0	0	1	1	0	0	0
WIT	none	3	0	0							0	0	0	0	0	0				0	0	0			

5.5.7 ToR 5 Evaluation of fully documented fisheries FDF

No Fully Documented Fisheries (FDF) were reported as operating within the Irish Sea.

5.5.8 ToR 6 Spatio-temporal patterns in effective effort by fisheries

Spatial figures of effort for the Irish Sea concentrate on those categories identified as significant in recorded effort, and/or cod, plaice and sole catches. Figures use a common scale across years for a given gear group, but scales are unique to each category such that the colours assigned to statistical rectangles for gear group TR1 can not be compared directly to those assigned for TR2 say.

TR1: At the beginning of the presented time series, TR1 effort was focused across the Northern boarder and western Irish Sea. Subsequently effort has declined to an overall low level, limited to the northern and western areas 2011 (Figure 5.5.8.1).

TR2: Clear TR2 effort focal points occur within the Irish Sea, coinciding with areas of mud based substrate, with most effort occurring in the Western Irish Sea across two rectangles. In addition, there is an additional secondary focus in the Eastern Irish Sea. Over the period there has been a reduction in effort, with indications of this in the contraction of both focus areas (Figure 5.5.8.2).

BT2: This gear has shown a marked contraction in fishing areas and effort reduction within the Irish Sea (Figure 5.5.8.3). Two of the three focus areas which were present in 2003 still occur in 2011. The southern most focus reduced to background effort levels a number of years ago.

GN1: The measure of spatial effort submitted in the data call is not considered appropriate for application to static gears. However, the figure for gillnet effort is provided here as an indication of spatial distribution as this gear category can contain relatively high cod catches. Gillnet effort distribution has been changeable over the period, although current focus is suggested in the eastern Irish Sea (Figure 5.5.8.4).

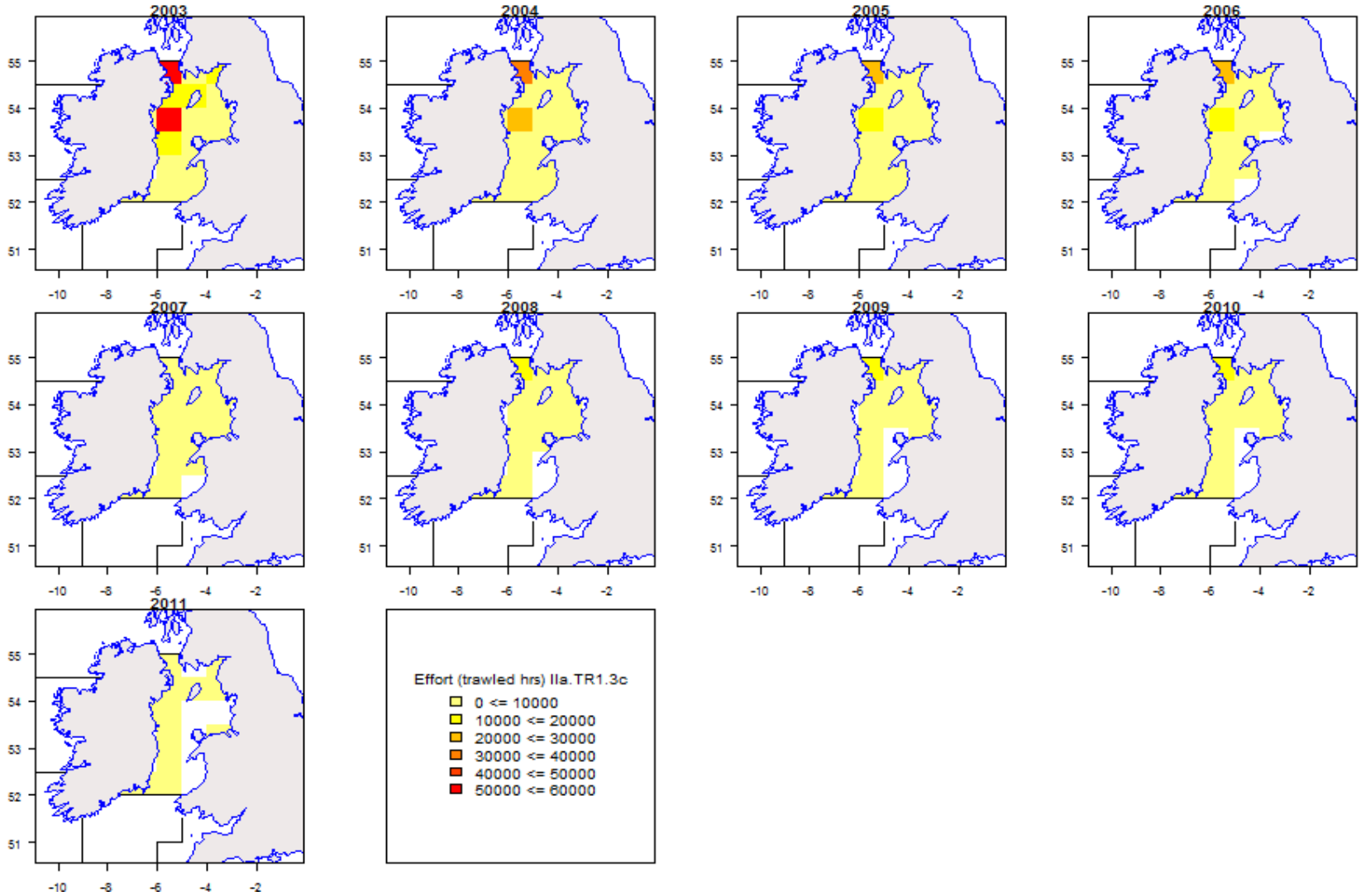


Figure 5.5.8.1. Irish Sea. Spatial distribution of effort (trawled hours) by ICES statistical rectangle for TR1, 2003-2011. N.B. These figures include effort carried out under special condition CPart11.

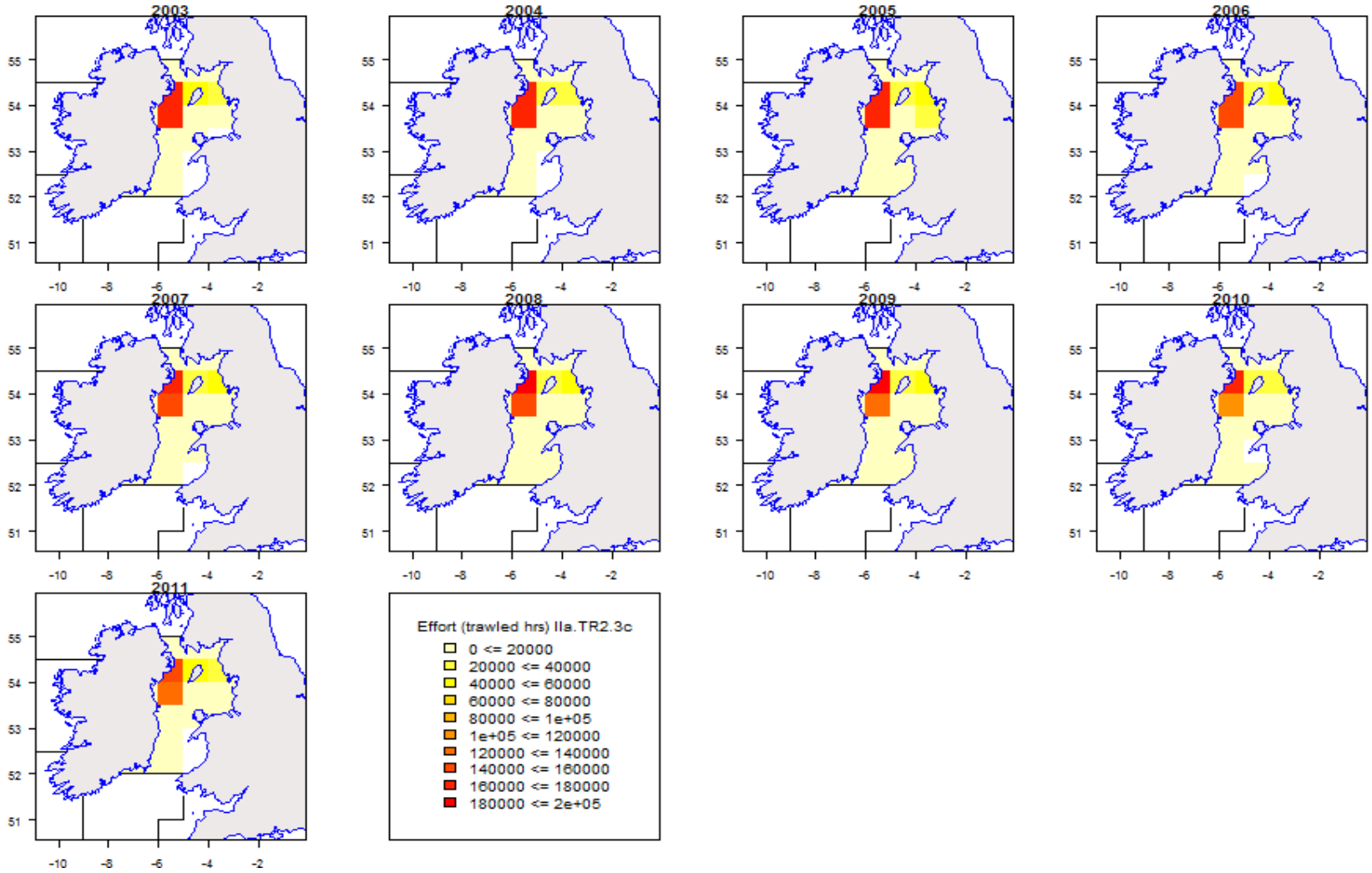


Figure 5.5.8.2. Irish Sea. Spatial distribution of effort (trawled hours) by ICES statistical rectangle for TR2, 2003-2011. N.B. These figures include effort carried out under special condition CPart11.

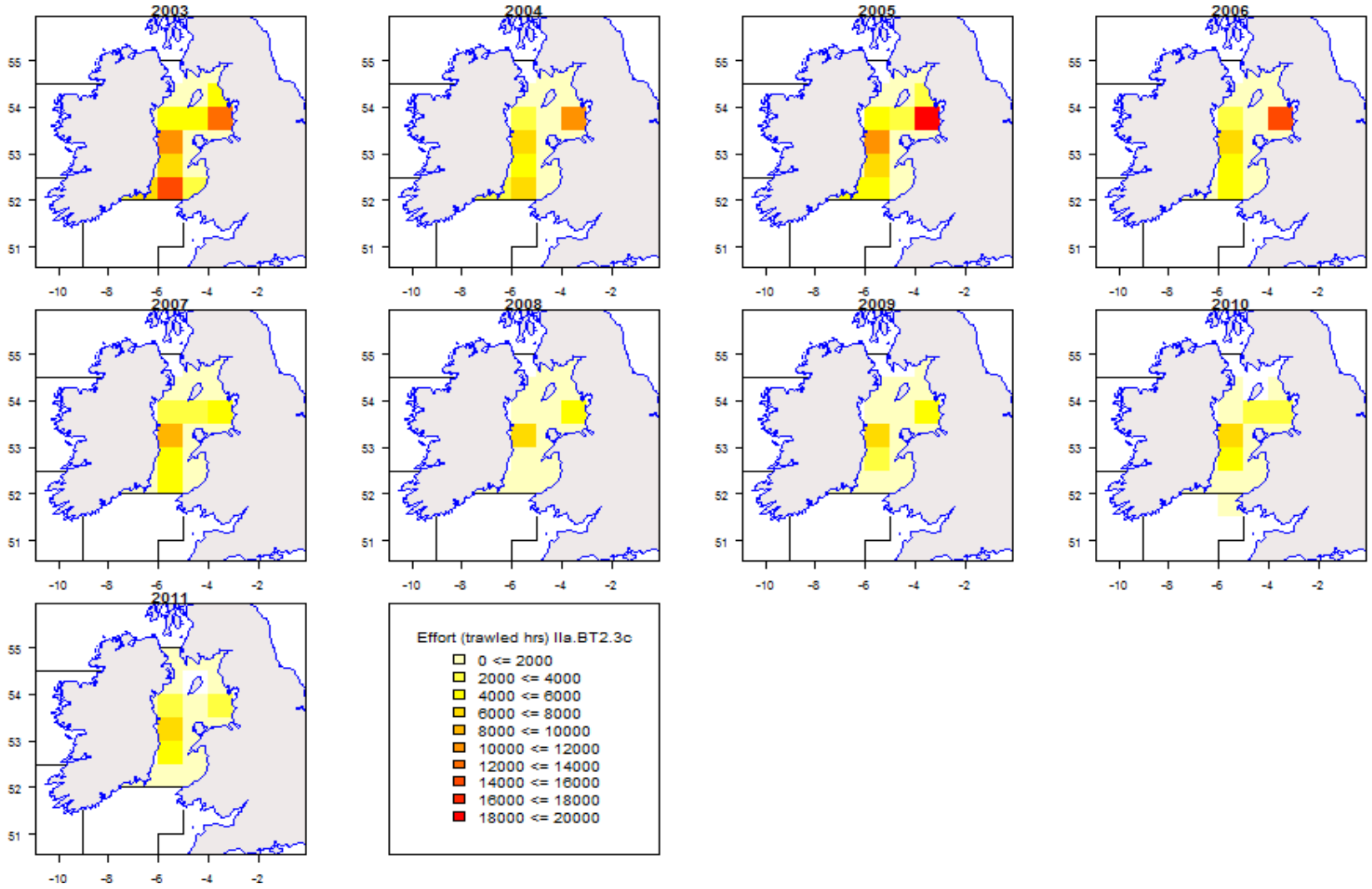


Figure 5.5.8.3. Irish Sea. Spatial distribution of effort (trawled hours) by ICES statistical rectangle for BT2, 2003-2011.

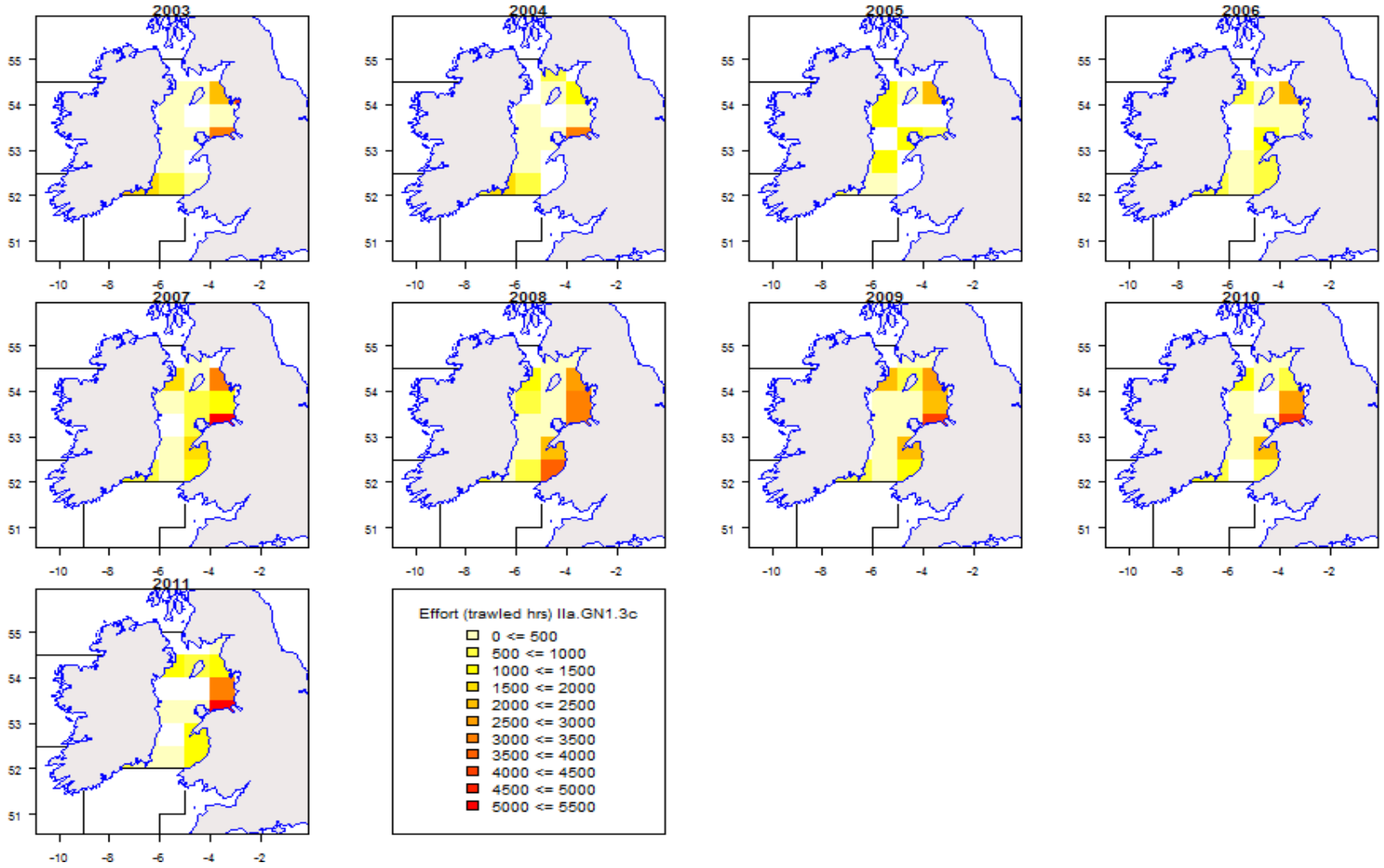


Figure 5.5.8.4. Irish Sea. Spatial distribution of effort (trawled hours) by ICES statistical rectangle for GN1, 2003-2011.

5.5.9 *ToR 7 Any unexpected evolutions of the trends in catches and effort by Member State and fisheries*

No unexpected evolutions in effort or catch trends by Member state or fishery were observed in the addition of 2011 data.

5.5.10 *ToR 8 Correlation between partial cod mortality and fishing effort by Member State and fisheries*

EWG 12-12 interprets this task as largely overlapping with ToR 10. The EWG 12-12 analyses and response can be found in chapter 5.5.13.

5.5.11 *ToR 9 Estimation of conversion factors to be applied for effort transfers between regulated gear groups*

The table of international conversion factors (Table 5.5.11.1) is based on average CPUE (2009-2011). LPUEs are used for GN1, GT1, LL1 and TR1 fisheries as no discard data has been available. TR2 and BT2 are the only two gear categories where discard data was available over the three previous years.

Table 5.5.11.1 Irish Sea. Conversion factors for exchange of effort between gears based on average CPUE 2009-2011. Red cells indicate no discard data available; yellow cells indicate discard information available.

	donor gear	receiving gear							
		BT2	GN1	GT1	LL1	TR1	TR2		CPUE
3c	BT2		0.02	0.12	1	0.11	1		73
3c	GN1	1		1	1	1	1		3094
3c	GT1	1	0.20		1	0.96	1		617
3c	LL1	0.01	0	0.002		0.002	0.01		1
3c	TR1	1	0.21	1	1		1		640
3c	TR2	0.95	0.02	0.11	1	0.11			69

5.5.12 *ToR 10 Estimation of partial fishing mortalities of cod by area, Member State and fisheries and correlation between partial cod mortality and fishing effort by area, Member State and fisheries*

EWG 12-12 interprets this task as largely overlapping with ToR 10. The EWG 12-12 analyses and response can be found in chapter 5.5.13.

5.5.13 *ToR 11 Comparative analyses between trends in fishing mortality and fishing effort by Member State and fisheries and the cod plan (R (EC) No 1342/2008) provisions, in particular with regard to Article 13*

The STECF EWG 12-12 presents partial fishing mortalities of cod by major fisheries and Member States in relation to the estimated fishing mortality by ICES (2012) and landings (Table 5.5.13.1) in relation to the estimated total catch for the year available. The full list of all fisheries can be downloaded from the EWG's web page: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg12. The anticipated trend in fishing mortality as derived from the cod plan is also presented in the following Tables 5.5.13.1. The sustainable exploitation target is defined as F_{MSY}=0.4. The trends in fishing effort in units of kWdays at sea of the relevant fisheries are also presented in Tables 5.5.13.1. The presented parameters r (absolute value of Pearson's coefficient of correlation), numbers of points considered, as well as a p value to quantify the statistical significance (≤0.05)

allow conclusions about the quality of the correlation between the partial F and fisheries specific fishing effort. Those values are presented in the Tables 5.5.13.1 and resulting regressions are shown the Fig. 5.5.13.1 for major fisheries.

It can be concluded from the estimated F (Table 5.5.13.1) that the stock is unsustainably exploited with an F 2 times the target without considering discarding. The fisheries listed within the table contribute around 90% to the total estimated fishing mortality in 2008, which is based on landings only. The landings contribution then drops to only 28% in 2011, the remainder being due to ICES estimates of unallocated mortality.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for landings of the regulated fisheries and their estimated fishing efforts are non-significant. The partial Fs of most Member State fisheries using regulated gears are not significantly correlated with their specific effort estimates. When considering the entire period 200-2011, three fisheries show a significant correlation between F and effort, i.e. the Belgium and English BT2 and the French TR1 CPart13. However, these fisheries land relatively low levels of cod.

The lack of significant relationships between F and effort for the greatest cod contributors to cod landings indicate that kWdays at sea may not be an appropriate auxiliary measure to catch constraints and technical measures. STECF EWG 12-12 notes that the lack of discards specifically included within the assessment and therefore not included here prevents reliable conclusions.

STECF EWG 12-12 notes that there are indications the Member States fisheries operating under Article 13, regardless of subsection, since 2009 may have contributed to the minor reduction in harvest rate. However, as declines over the period 2003-2011 have been observed in non-Article 13 fisheries, it is unclear whether harvest rate reductions are due to cod avoidance measures.

Table 5.5.13.1 Irish Sea cod. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for landings of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

Runnig previous year annual F reductions by 25 percent as SSB remains below Blim											Reference year					Effort kW days running previous year baseline													
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012			
F plan												1.247	0.935	0.701	0.526	0.395	Effort plan/ TAC regulations						141839816	116879249	110269253	99129418	88522742			
reduction F plan													-0.25	-0.25	-0.25	-0.25	reduction	not following the provision of Article 12.2 and 4 (base line revisions?)						-0.18	-0.06	-0.10	-0.11			
F estimated							1.286	1.262	1.241	1.263	1.26	1.247	1.232	1.209	1.187		Effort estimated	9957389	7436534	7326930	6090806	5664482	5298710	4705123	4485188	5090122				
reduction F estimated													-0.01	-0.02	-0.02									-0.11	-0.05	0.13				
													not following the provision of Article 7																	
																	EFFORT												2003-2011	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
IIa	3c	COD	BEL	BT2	none	landings	0.058	0.068	0.086	0.056	0.043	0.016	0.016	0.013	0.023			1884843	1482831	1694567	1153947	956953	554841	624989	649225	660228	0.908	0.001	9
IIa	3c	COD	BEL	TR2	none	landings	0.000	0.001	0.002	0.004	0.009	0.009	0.009	0.006	0.002			0	13541	43486	34052	76789	67534	29980	14283	28390	0.570	0.141	8
IIa	3c	COD	ENG	BT2	none	landings	0.002	0.001	0.005	0.001	0.001	0.000	0.000	0.000	0.000			172354	68579	161500	59199	31112	17349	5808	1598	41222	0.881	0.002	9
IIa	3c	COD	ENG	GN1	none	landings	0.002	0.005	0.003	0.004	0.001	0.000	0.000	0.001	0.004			14872	12326	10011	8378	3930	4297	684	2260	3602	0.598	0.089	9
IIa	3c	COD	ENG	GT1	none	landings	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002	0.001			0	0	0	475	656	1066	2788	984	1476	0.398	0.435	6
IIa	3c	COD	ENG	LL1	none	landings	0.000	0.001	0.002	0.003	0.001	0.000	0.000	0.000	0.000			44138	58414	93773	59656	12238	840	924	0	1543	0.670	0.069	8
IIa	3c	COD	ENG	TR1	CPart13	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.008	0.004			0	0	0	0	0	0	21860	25111	14364	NA	NA	3
IIa	3c	COD	ENG	TR1	none	landings	0.024	0.049	0.018	0.013	0.002	0.001	0.000	0.000	0.000			399886	197351	94201	68905	16846	5932	0	0	0	0.602	0.206	6
IIa	3c	COD	ENG	TR2	CPart13	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001			0	0	0	0	0	0	171656	180844	161841	NA	NA	3
IIa	3c	COD	ENG	TR2	none	landings	0.004	0.012	0.013	0.003	0.003	0.005	0.000	0.000	0.000			211774	347848	287791	247447	244461	219456	0	0	0	0.835	0.039	6
IIa	3c	COD	FRA	TR1	CPart13.2.b *)	landings	0.046	0.025	0.023	0.017	0.014	0.003	0.004	0.000	0.003			264447	167253	180515	109174	67487	19701	19701	6668	6138	0.979	0.000	9
IIa	3c	COD	FRA	TR2	CPart13.2.b *)	landings	0	0	0.0008	0	0	0	0	0	0			588	0	2352	0	810	0	0	0	0	NA	NA	3
IIa	3c	COD	GBJ	BT2	none	landings	0.0026	0.004	0	0	0	0	0	0	0			40878	42260	3542	0	0	0	0	0	0	NA	NA	3
IIa	3c	COD	IOM	TR1	none	landings	0	0	0	0	0	0	0	0	0			9070	362	172	0	649	895	0	0	0	NA	NA	5
IIa	3c	COD	IOM	TR2	CPart13	landings	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	23022	23928	154907	NA	NA	3
IIa	3c	COD	IOM	TR2	none	landings	0	0	0	0	0	0	0	0	0			18628	10826	27205	5427	29763	14592	0	0	0	NA	NA	6
IIa	3c	COD	IRL	BT2	none	landings	0.016	0.01	0.0271	0.0208	0.0408	0.0131	0.0074	0.0235	0.0269			860849	414446	514653	481404	550975	374494	173927	218054	211367	0.166	0.67	9
IIa	3c	COD	IRL	GN1	none	landings	0.0278	0.073	0.0385	0.1259	0.2581	0.3662	0.0967	0.0697	0.046			92103	63069	26672	29531	47941	40957	22212	22162	20315	-0.035	0.929	9
IIa	3c	COD	IRL	GT1	none	landings	0	0	0	0	0	0	0	0	0			0	0	0	0	0	1327	1237	0	0	NA	NA	2
IIa	3c	COD	IRL	LL1	none	landings	0	0	0	0	0	0.0112	0	0	0			0	800	0	0	0	24199	0	611	146	NA	NA	4
IIa	3c	COD	IRL	TR1	none	landings	0.0425	0.0167	0.0068	0.0040	0.0675	0.1065	0.0880	0.0389	0.0446			381119	157955	87263	84550	141442	73625	60348	77897	56161	-0.128	0.743	9
IIa	3c	COD	IRL	TR2	CPart13.2b	landings	0	0	0	0	0	0	0	0	0.046			0	0	0	0	0	0	0	0	465118	NA	NA	1
IIa	3c	COD	IRL	TR2	CPart13.2c	landings	0	0	0	0	0	0	0	0.0003	0.029			0	0	0	0	0	0	30827	115391	373511	NA	NA	3
IIa	3c	COD	IRL	TR3	none	landings	0	0	0	0	0	0	0	0	0			900	90	3305	960	0	436	0	0	179	NA	NA	6
IIa	3c	COD	NIR	GN1	none	landings	0	0	0	0	0	0	0	0	0			0	222	0	0	0	0	2140	0	0	NA	NA	2
IIa	3c	COD	NIR	TR1	CPart13	landings	0	0	0	0	0	0	0.3545	0.1721	0.0637			0	0	0	0	0	0	384860	350609	171175	NA	NA	3
IIa	3c	COD	NIR	TR1	none	landings	0.0645	0.207	0.2345	0.3777	0.1828	0.3269	0	0	0			2053909	1161889	872476	785380	340235	510151	0	0	0	-0.669	0.146	6
IIa	3c	COD	NIR	TR2	CPart13	landings	0	0	0	0	0	0	0.1165	0.0779	0.0403			0	0	0	0	0	0	3097345	2777582	2674691	NA	NA	3
IIa	3c	COD	NIR	TR2	none	landings	0.0575	0.1547	0.1689	0.1784	0.1349	0.1728	0	0	0			3366613	3110597	3185141	2951782	3125387	3345023	0	0	0	-0.546	0.262	6
IIa	3c	COD	SCO	LL1	none	landings	0	0	0	0	0	0	0	0	0			3247	0	0	0	0	0	0	0	0	NA	NA	1
IIa	3c	COD	SCO	TR1	none	landings	0.0042	0.0013	0	0	0	0	0	0	0			92516	32104	3889	3104	0	0	0	0	0	NA	NA	4
IIa	3c	COD	SCO	TR2	CPart13.2.b-c	landings	0	0	0	0	0	0	0.0012	0	0.0007			0	0	0	0	0	0	30815	17981	43748	NA	NA	3
IIa	3c	COD	SCO	TR2	none	landings	0.001	0.0033	0.0023	0	0.0008	0	0	0	0			44655	93771	34416	7435	16808	21995	0	0	0	0.871	0.024	6
Sum							0.3527	0.6309	0.6289	0.8071	0.7595	1.0312	0.7002	0.4132	0.3339			9957389	7436534	7326930	6090806	5664482	5298710	4705123	4485188	5090122	0.278	0.469	9
check sum Fpar/F							0.2743	0.4999	0.5068	0.639	0.6028	0.8269	0.5683	0.3418	0.2813														

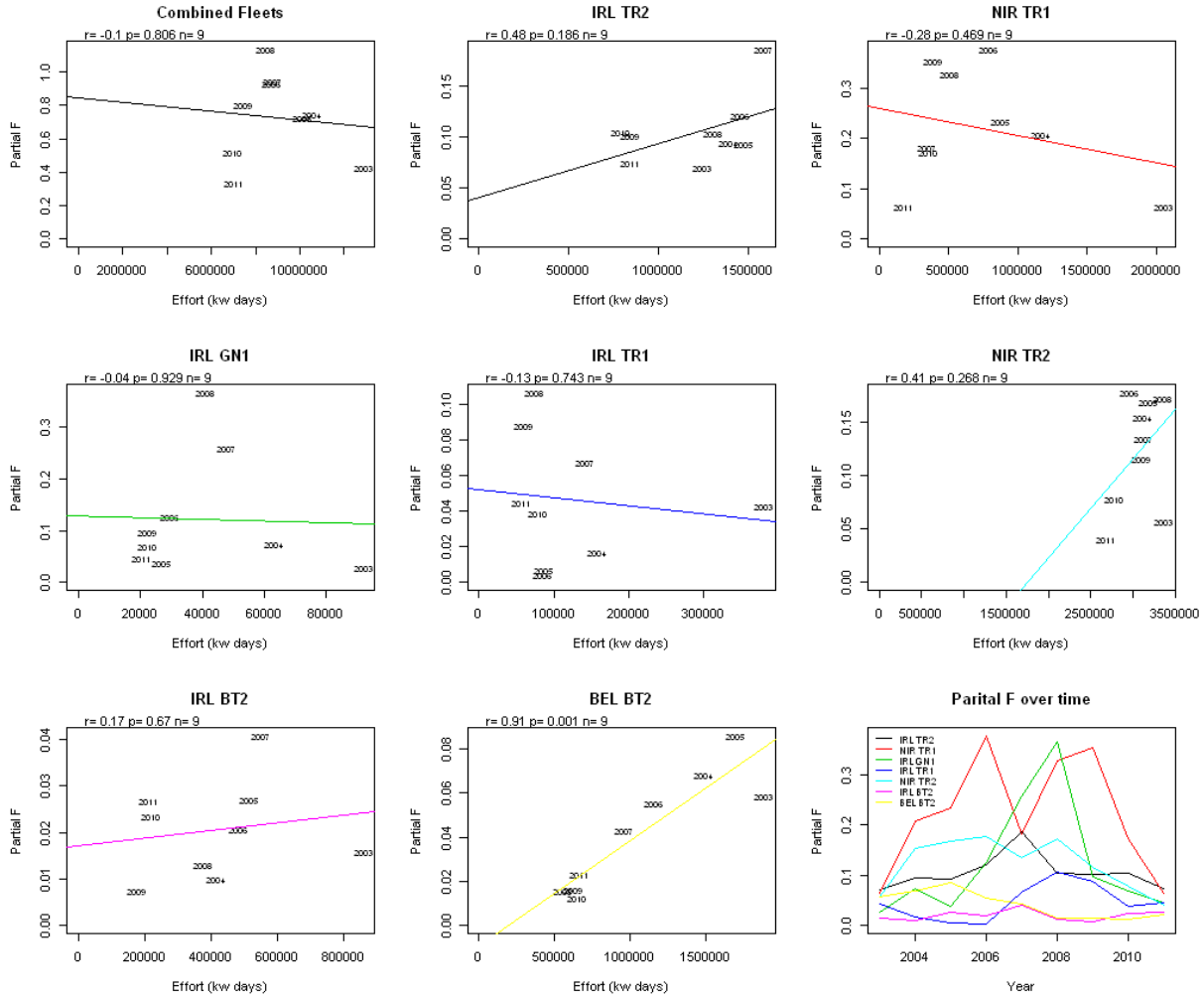


Fig. 5.5.13.1 Irish Sea cod. Partial fishing mortality (based on harvest rate estimates, landings only) over effort (kWd) in area 3c of major fisheries, 2003-2011. R = Pearson's coefficient of correlation, p value from two tailed to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated fisheries and that the trends of the fisheries are not separated by special conditions.

5.5.14 ToR 12 Considerations in order to accomplish spatio-temoral patterns in standardized catchability indices for cod

The STECF EWG 12-12 discussed the formulation of catchability by rectangle within the Irish Sea, it was decided that the area is too small to produce meaningful catchability indices.

5.6 Celtic Sea effort regime evaluation for fisheries which will be affected by the extension of the cod management

5.6.1 ToR 1.a Fishing effort in kWdays, GTdays and number of vessels by area, Member state and fisheries

Even though there is at present no effort regulation in the Celtic Sea, the analyses below consider the same gear and mesh categories as used in the cod plans. Table 5.6.1 lists the trends in effort by gear and mesh categories by country in kW*days. Information on GT*days at sea and the number of vessels active in Celtic sea are not presented in this report but are available on the JRC website: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12

STECF EWG 12-12 notes that the Irish resubmission of data causes major changes in the estimated trends of fisheries catches and effort (see section 4).

The following sections are subdivided into the whole Celtic Sea, the ICES sub-divisions 7bcefghjk (Cel1) and the subset of ICES subdivision 7gh (Cel2).

5.6.1.1 ICES sub-divisions 7bcefghjk (Cel1)

Table 5.6.1.1.1 Trend in effort (kW*days at sea), according to cod plan gear definition and Member State, 2000-2011. Note, data for Celtic Sea 7bcefghjk (Cel1)

ANNE	REG AREA C	REG GEAR C	SPECOI	COUNTI	VESSEL_LENG	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	BT1	none	BEL	O15M									1766			
Cel1	7bcefghjk	BT1	none	ENG	O15M					52079							
Cel1	7bcefghjk	BT1	NONE	IRL	O15M				14428								
Cel1	7bcefghjk	BT2	none	BEL	O15M	2033531	2038479	2286465	2914644	4568918	3996701	3246205	3351614	2285026	1932211	2392748	2339618
Cel1	7bcefghjk	BT2	none	ENG	O10T15M	56879	169147	144721	168607	72927	57373	53413	68457	68770	39504	57209	50614
Cel1	7bcefghjk	BT2	none	ENG	O15M	5408034	5570946	5247778	5871505	5623896	5626763	5225546	4943815	4253780	3822565	3678346	3831714
Cel1	7bcefghjk	BT2	none	FRA	O10T15M	19608	15582	14707	7217	27252	19355	99790	130720	55970	48196	109999	117351
Cel1	7bcefghjk	BT2	none	FRA	O15M		85561	181057	37869	290521	244545	206042	189856	90473	90473	196958	87754
Cel1	7bcefghjk	BT2	none	GBJ	O15M	173431	277324	278577	284450	365302	202229						
Cel1	7bcefghjk	BT2	NONE	IRL	O10T15M								187				
Cel1	7bcefghjk	BT2	NONE	IRL	O15M				3748872	2331454	2969538	2079409	1767309	1020052	916246	948287	879763
Cel1	7bcefghjk	BT2	none	NLD	O15M	26478			22000							1467	
Cel1	7bcefghjk	BT2	none	SCO	O15M								3666		1396		
Cel1	7bcefghjk	GN1	none	BEL	O15M									2700			
Cel1	7bcefghjk	GN1	none	DEU	O15M	417051	391578	377303	371138	452381	396914	32794	171880	229650	93910	114413	91953
Cel1	7bcefghjk	GN1	none	ENG	O10T15M	286060	342957	344063	368630	408264	321651	303347	273695	241386	271875	263560	257877
Cel1	7bcefghjk	GN1	none	ENG	O15M	1487816	1190148	1402935	1703645	1801520	1361727	664922	710075	482738	364708	458224	360084
Cel1	7bcefghjk	GN1	none	FRA	O10T15M	275261	273569	2213729	740936	1015940	904288	951675	917344	704412	704349	442616	453543
Cel1	7bcefghjk	GN1	none	FRA	O15M	807869	896164	2198446	1042726	1069302	1240069	996131	1258557	1535687	1535360	1791358	1589363
Cel1	7bcefghjk	GN1	none	GBJ	o15m											716	
Cel1	7bcefghjk	GN1	NONE	IRL	O10T15M	73490	48050	33867	66329	74856	63650	82996	92300	115527	147495	123637	88262
Cel1	7bcefghjk	GN1	NONE	IRL	O15M	1544573	1282377	743429	995797	812092	615141	448209	469433	417322	403203	400345	362955
Cel1	7bcefghjk	GN1	none	NIR	O10T15M										2106	1701	891
Cel1	7bcefghjk	GN1	none	SCO	O15M	450872	348860	250000	467260	643185	498868	192066	193116	355646	437451	387259	463248
Cel1	7bcefghjk	GT1	none	ENG	O10T15M	7301	1819		373	243	11051	7204	13030	17085	14082	2188	14617
Cel1	7bcefghjk	GT1	none	ENG	O15M	1709	3120	936	17903	40645	16189	63807	16867	20745	3249	13969	72025
Cel1	7bcefghjk	GT1	none	FRA	O10T15M	362480	428847	1376153	463009	613504	763828	906651	1057950	662533	662382	493742	505116
Cel1	7bcefghjk	GT1	none	FRA	O15M	140184	216520	1121650	299226	358319	438016	465337	471663	381102	381102	498932	494870
Cel1	7bcefghjk	GT1	NONE	IRL	O10T15M				802			6673	18759	21940	29313	30733	27562
Cel1	7bcefghjk	GT1	NONE	IRL	O15M		3885			172	16260	13550	6624	22125	7800	35672	23000
Cel1	7bcefghjk	GT1	none	SCO	O15M	74562	102966	112004	50501	13362							
Cel1	7bcefghjk	LL1	none	DNK	O15M			6993									
Cel1	7bcefghjk	LL1	none	ENG	O10T15M	138391	108211	74205	82631	64003	57687	69608	81526	63299	42273	50388	51934
Cel1	7bcefghjk	LL1	none	ENG	O15M	354301	326937	417981	318021	276751	265897	405536	575325	138810	4194	6800	3781
Cel1	7bcefghjk	LL1	none	FRA	O10T15M	41782	25673	327200	111426	153667	198527	350334	313997	139114	139114	170925	133564
Cel1	7bcefghjk	LL1	none	FRA	O15M	127040	84155	177620	123656	184636	206807	360284	410608	336703	336703	382978	363457
Cel1	7bcefghjk	LL1	NONE	IRL	O10T15M						4074	1265	9962	16325	26309	21174	14284
Cel1	7bcefghjk	LL1	NONE	IRL	O15M	77156	133688	69300	91311	3600	68722		46022	7281	2856	13030	3193
Cel1	7bcefghjk	LL1	NONE	PRT	O15M				3302								
Cel1	7bcefghjk	LL1	none	SCO	O10T15M						221						
Cel1	7bcefghjk	LL1	none	SCO	O15M	196263	298487	286098	136014	6160	50975	249936	257928	811319	194403	261208	147510

Celtic Sea 7bcefghjk (Cel1) continued

ANNE	REG AREA C	REG GEAR C	SPECOI	COUNTI	VESSEL_LENG	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	TR1	none	ENG	O10T15M	17059	54662	65325	51486	24379	12250	18271	30261	68970	105201	173102	439214
Cel1	7bcefghjk	TR1	none	ENG	O15M	389534	1460877	3406325	2383920	2237575	1791918	2209095	2274588	1591367	1245550	1368151	1631550
Cel1	7bcefghjk	TR1	none	FRA	O10T15M		3266	87847	18668	21245	24258	28074	19271	2627	2627	6974	9027
Cel1	7bcefghjk	TR1	none	FRA	O15M	4745042	6521242	31670939	7715939	7767596	7342415	7853011	7400986	6311661	6287869	9424263	10044412
Cel1	7bcefghjk	TR1	none	GBG	O10T15M								328	402			
Cel1	7bcefghjk	TR1	none	GBG	O15M			5811									
Cel1	7bcefghjk	TR1	none	GBJ	O15M		6396	2296									
Cel1	7bcefghjk	TR1	none	IOM	O15M	11967											
Cel1	7bcefghjk	TR1	NONE	IRL	O10T15M				402		4595	32698	12161	18276	26442	67560	120493
Cel1	7bcefghjk	TR1	NONE	IRL	O15M				5847510	5080624	4806489	3850598	4019448	3850262	4152808	4454014	4318224
Cel1	7bcefghjk	TR1	none	NIR	O15M	7897	20675	12016	7641		716	5176		1141	1805	16616	24770
Cel1	7bcefghjk	TR1	none	NLD	O15M		735									6044	221
Cel1	7bcefghjk	TR1	none	SCO	O10T15M				600						36953	58669	6556
Cel1	7bcefghjk	TR1	none	SCO	O15M	162262	347400	792686	802171	879428	1084677	779453	681392	835556	869444	939069	742392
Cel1	7bcefghjk	TR2	none	BEL	O15M					119327	188914	424630	464699	467476	468989	425076	290226
Cel1	7bcefghjk	TR2	none	ENG	O10T15M	1603997	1451287	1314991	1399554	1465978	1433817	1480821	1518102	1475791	1506282	1407067	1071990
Cel1	7bcefghjk	TR2	none	ENG	O15M	5787558	3624454	825033	778265	793106	748269	545935	546165	188851	211851	270932	277086
Cel1	7bcefghjk	TR2	none	FRA	O10T15M	447838	457383	2723095	990647	1170583	934323	1811990	2322695	1359817	1332591	1377589	1450200
Cel1	7bcefghjk	TR2	none	FRA	O15M	6510657	8307813	41088422	9525729	9749701	10606401	9086047	8463099	5978693	5961053	5517774	4618154
Cel1	7bcefghjk	TR2	none	GBG	O10T15M						730	6042	11065	5203	3090	7854	2298
Cel1	7bcefghjk	TR2	none	GBG	O15M	15106	42207	27222				336					
Cel1	7bcefghjk	TR2	none	GBJ	O15M	69291	32364	36663	3557		6745	19360	30580	25740	31020	37620	41195
Cel1	7bcefghjk	TR2	NONE	IRL	O10T15M				306926	257022	350469	334422	459059	451136	543882	534025	414028
Cel1	7bcefghjk	TR2	NONE	IRL	O15M				5209697	5224000	6198534	5446878	5597666	4158601	2979449	3575045	3388717
Cel1	7bcefghjk	TR2	none	NIR	O10T15M										1832	1832	
Cel1	7bcefghjk	TR2	none	NIR	O15M	28717	2620	2184		53672	72432	42938	20658	131938	142224	144625	6852
Cel1	7bcefghjk	TR2	none	NLD	O15M	2847	36507	36223	36589	64393	108566	162551	113851	90839	216240	252472	259559
Cel1	7bcefghjk	TR2	none	SCO	O10T15M				37584	76992	66156	5364	17582	162	9536	17322	20264
Cel1	7bcefghjk	TR2	none	SCO	O15M	1402569	945649	413810	451909	367030	352869	382627	350470	506435	485883	439290	529514
Cel1	7bcefghjk	TR3	none	DNK	O15M	11867		36892		15575							
Cel1	7bcefghjk	TR3	none	ENG	O10T15M	3019	1660	93	1157	559	220	1505	4986	7072	10318	2204	4242
Cel1	7bcefghjk	TR3	none	ENG	O15M	648	216	108	5112	432	2984		660	880			
Cel1	7bcefghjk	TR3	none	FRA	O10T15M		3432	9073	5832	5840	14923	17955	2179	7931	7931	22410	21286
Cel1	7bcefghjk	TR3	none	FRA	O15M	55719	38826			1146		3516	2304	1596	1596	32619	33180
Cel1	7bcefghjk	TR3	NONE	IRL	O10T15M								403	906	4665	1355	97
Cel1	7bcefghjk	TR3	NONE	IRL	O15M				8499	8964	340	10012	3573	11035	12724	8249	21567
Cel1	7bcefghjk	TR3	none	NLD	O15M	28392	5096										
Cel1	7bcefghjk	TR3	none	SCO	O10T15M					1192	4917				894		
Cel1	7bcefghjk	TR3	none	SCO	O15M									5499			

Celtic Sea 7bcefghjk (Cel1) continued

ANNE	REG AREA C	REG GEAR C	SPECOI	COUNTI	VESSEL_LENG	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	BEAM	none	BEL	O15M	190	11011								38953	70493	34710
Cel1	7bcefghjk	BEAM	none	ENG	O10T15M				537	232	654						641
Cel1	7bcefghjk	BEAM	none	ENG	O15M		5623		2215	1388	16341	12221	6031	884	2750	6993	5419
Cel1	7bcefghjk	BEAM	none	FRA	O10T15M						52646					1461	441
Cel1	7bcefghjk	BEAM	none	FRA	O15M				2420	5940		1776					
Cel1	7bcefghjk	BEAM	none	GBJ	O15M					1476							
Cel1	7bcefghjk	BEAM	NONE	IRL	NONE												
Cel1	7bcefghjk	BEAM	NONE	IRL	O15M	3225607	3058151	2853771	251944	700722	5372						
Cel1	7bcefghjk	BEAM	none	NLD	O15M		2184	5298									
Cel1	7bcefghjk	DEM_SEINE	none	FRA	o15m											19311	
Cel1	7bcefghjk	DEM_SEINE	NONE	IRL	O10T15M	515	1888	1888									
Cel1	7bcefghjk	DEM_SEINE	NONE	IRL	O15M	494613	665850	1081337	50721	92689	18279			20910			
Cel1	7bcefghjk	DREDGE	none	BEL	O15M									23028	72828	68186	26473
Cel1	7bcefghjk	DREDGE	none	ENG	O10T15M	523422	455883	375311	309060	382001	553035	554194	492392	302335	450903	477963	567161
Cel1	7bcefghjk	DREDGE	none	ENG	O15M	1155117	797511	973965	614408	764430	891393	921527	921550	595747	700967	869100	1091645
Cel1	7bcefghjk	DREDGE	none	FRA	O10T15M	859043	1048444	7828280	2320953	2954269	2755241	3279571	3330398	2518083	2478802	1680444	1676208
Cel1	7bcefghjk	DREDGE	none	FRA	O15M	399764	510343	2543721	631654	904367	644169	719978	852839	788184	788405	664555	540029
Cel1	7bcefghjk	DREDGE	none	GBJ	O15M	116972	115902	67461	54327							440	440
Cel1	7bcefghjk	DREDGE	none	IOM	O10T15M									1689			
Cel1	7bcefghjk	DREDGE	none	IOM	O15M	13000	21775	19240				23622	1488				
Cel1	7bcefghjk	DREDGE	NONE	IRL	O10T15M	505	14758	5518	19763	16170	2686	5237	6625	19361	16193	23843	31788
Cel1	7bcefghjk	DREDGE	NONE	IRL	O15M	510621	355371	332511	653522	775093	414693	55741	135371	117801	162441	167179	157570
Cel1	7bcefghjk	DREDGE	none	NLD	O15M		54426	56253	153790	136772	198540	129990	174403	92329	196579	77210	
Cel1	7bcefghjk	DREDGE	none	SCO	O10T15M			639			20295					7722	
Cel1	7bcefghjk	DREDGE	none	SCO	O15M	509678	644894	545376	585814	606523	820152	716849	509439	532987	545777	495326	162180
Cel1	7bcefghjk	none	none	DNK	O15M	14700											
Cel1	7bcefghjk	none	none	FRA	O10T15M	26031	12208	55474	10756	33746	76396	41748	6979	16784	16784		45498
Cel1	7bcefghjk	none	none	FRA	O15M	205	365	8717	21008		327	858	5495	5849	5849		8828
Cel1	7bcefghjk	none	NONE	IRL	O10T15M			2088					383	275		52	
Cel1	7bcefghjk	none	NONE	IRL	O15M		3872	375									
Cel1	7bcefghjk	OTTER	none	BEL	O15M	39210	30275	36086	21681								
Cel1	7bcefghjk	OTTER	none	DNK	O15M	178155	171401	27518	128226	217953	75248	120115	73624	54619	146213	33000	
Cel1	7bcefghjk	OTTER	none	ENG	O10T15M	587	5783	8397	12522	2308	39153	5023	39319	2922	24642	18573	26944
Cel1	7bcefghjk	OTTER	none	ENG	O15M	190955	42228	60162	40939	110395	224730	82807	35121	61169	41458	243826	78176
Cel1	7bcefghjk	OTTER	none	FRA	O10T15M	11274	40019	289646	200558	245014	357035	187430	132530	72340	71584	66696	78561
Cel1	7bcefghjk	OTTER	none	FRA	O15M	23817	86107	177390	93623	120842	176987	64322	122042	28194	28194	136817	75075
Cel1	7bcefghjk	OTTER	NONE	IRL	NONE												
Cel1	7bcefghjk	OTTER	NONE	IRL	O10T15M	217260	244135	261005	41678	103219	4119	2100		240	145		828
Cel1	7bcefghjk	OTTER	NONE	IRL	O15M	5965040	7399624	8028496	192437	1014106	158922	14130	8602	24074	3425	14674	51226
Cel1	7bcefghjk	OTTER	none	NLD	O15M	20781	173746	167915	219121								
Cel1	7bcefghjk	OTTER	none	SCO	O10T15M				1341		1490				4470		
Cel1	7bcefghjk	OTTER	none	SCO	O15M	184125	145942	145792	58819	106140	333853	25059	22830	64600	97476	453991	101950
Cel1	7bcefghjk	PEL_SEINE	none	ENG	O10T15M	8206											402
Cel1	7bcefghjk	PEL_SEINE	none	ENG	o15m											6750	
Cel1	7bcefghjk	PEL_SEINE	none	FRA	O10T15M	38446	35391	167198	89864	87549	60693	69936	38525	50446	50446	58203	61033
Cel1	7bcefghjk	PEL_SEINE	none	FRA	O15M	11097	39368	182799	128953	106304	126726	228685	169325	124836	124521	259720	281078
Cel1	7bcefghjk	PEL_SEINE	NONE	IRL	O10T15M				5670								
Cel1	7bcefghjk	PEL_SEINE	NONE	IRL	O15M				11896	37748	8338				85		
Cel1	7bcefghjk	PEL_SEINE	none	NIR	O15M		30305	123386	116892	123386	123386						
Cel1	7bcefghjk	PEL_SEINE	none	NLD	O15M		440										
Cel1	7bcefghjk	PEL_SEINE	none	SCO	O15M	43095	10224		50043							36147	7695
Cel1	7bcefghjk	PEL_TRAWL	none	DEU	O15M	1189505	1029246	1168186	1163391	1236846	936424	856734	962635	1191573	1095622	1863980	1718554
Cel1	7bcefghjk	PEL_TRAWL	none	DNK	O15M	468034	342379	386361	165414	329954	519088	433696	894249	388076	624347	2201854	615654
Cel1	7bcefghjk	PEL_TRAWL	none	ENG	O10T15M	11693	11252	6324	7950	19022	13409	21430	55665	83542	76419	81105	65577
Cel1	7bcefghjk	PEL_TRAWL	none	ENG	O15M	396240	1014257	1037552	1107284	909490	593944	1024722	1032729	1239855	1212908	1459339	1168163
Cel1	7bcefghjk	PEL_TRAWL	none	FRA	O10T15M		13962	58361	21534	21456	12171	9745	73230	18571	18571	53128	35608
Cel1	7bcefghjk	PEL_TRAWL	none	FRA	O15M	1094766	1595315	5716572	1637313	1539255	1496366	1487064	1660738	861162	857922	1827724	1426415
Cel1	7bcefghjk	PEL_TRAWL	none	GBG	O10T15M								201		191		
Cel1	7bcefghjk	PEL_TRAWL	none	GBJ	o15m												385
Cel1	7bcefghjk	PEL_TRAWL	NONE	IRL	NONE												
Cel1	7bcefghjk	PEL_TRAWL	NONE	IRL	O10T15M		6272	1911		2370			1627	813	320	444	5480
Cel1	7bcefghjk	PEL_TRAWL	NONE	IRL	O15M	2605433	1845236	2620166	1505626	1576831	1459330	1311817	1987134	2271355	3537821	4240877	2199736
Cel1	7bcefghjk	PEL_TRAWL	none	LTU	O40M										246000		601600
Cel1	7bcefghjk	PEL_TRAWL	none	NIR	O15M	113924	41409	22703	45291	45931	52854	25667	51430	14170	34520	15640	14905
Cel1	7bcefghjk	PEL_TRAWL	none	NLD	O15M	7343001	6131744	5033174	5079963	5212064	4726876	4683381	4252343	5963606	4646318	5976389	4137665
Cel1	7bcefghjk	PEL_TRAWL	none	SCO	O10T15M				2086	5066	1341	596			894		
Cel1	7bcefghjk	PEL_TRAWL	none	SCO	O15M	718204	992814	886291	450188	1092027	1092313	310332	927221	1033393	803582	1099186	105981
Cel1	7bcefghjk	POTS	none	DEU	O15M			48951	79821	22932	67473	37763	49735	33957	45423	41460	63464
Cel1	7bcefghjk	POTS	none	ENG	O10T15M	665636	706700	715907	828542	854630	944496	758847	781712	797875	871928	865375	883572
Cel1	7bcefghjk	POTS	none	ENG	O15M	473687	478562	468758	406946	420885	363252	361554	395238	488690	521421	498515	480839
Cel1	7bcefghjk	POTS	none	FRA	O10T15M	482132	680910	4388916	1048241	1768450	1751646	2194275	1912615	417846	417846	1034732	1251441
Cel1	7bcefghjk	POTS	none	FRA	O15M	358292	301650	957513	206908	310610	331470	383133	367272	147387	147387	372225	385966
Cel1	7bcefghjk	POTS	none	GBG	O10T15M	67655	51787	8646						112		6632	
Cel1	7bcefghjk	POTS	none	GBG	O15M	43977	83277	2686		75868	56398	39402	67026	36910	53973	53544	55728
Cel1	7bcefghjk	POTS	none	GBJ	O15M	10772	30150	19068	984	3772		19963		34730	11426		
Cel1	7bcefghjk	POTS	none	IOM	O15M										9840		25256
Cel1	7bcefghjk	POTS	NONE	IRL	NONE												
Cel1	7bcefghjk	POTS	NONE	IRL	O10T15M	66103	76572	90333	40304	110768	147064	159380	353648	293311	291353	353076	293298
Cel1	7bcefghjk	POTS	NONE	IRL	O15M	1201	3293	46068	16269	10262	37509	31626	17494	9423	26437	33333	18642
Cel1	7bcefghjk	POTS	none	NIR	o10t15m											7833	
Cel1	7bcefghjk	POTS	none	SCO	O10T15M		425	89									3870
Cel1	7bcefghjk	POTS	none	SCO	O15M		3384							15155			

Effort contributions by vessels operating in the entire Celtic Sea 7bcefghjk (Cel1) from different nations are shown in (Figure 5.6.1.1.1). In terms of kW*days, France contributed 38 %, UK 20% Ireland 21%, the Netherlands 7%, Scotland 5% and Belgium 4% (average 2003-2011).

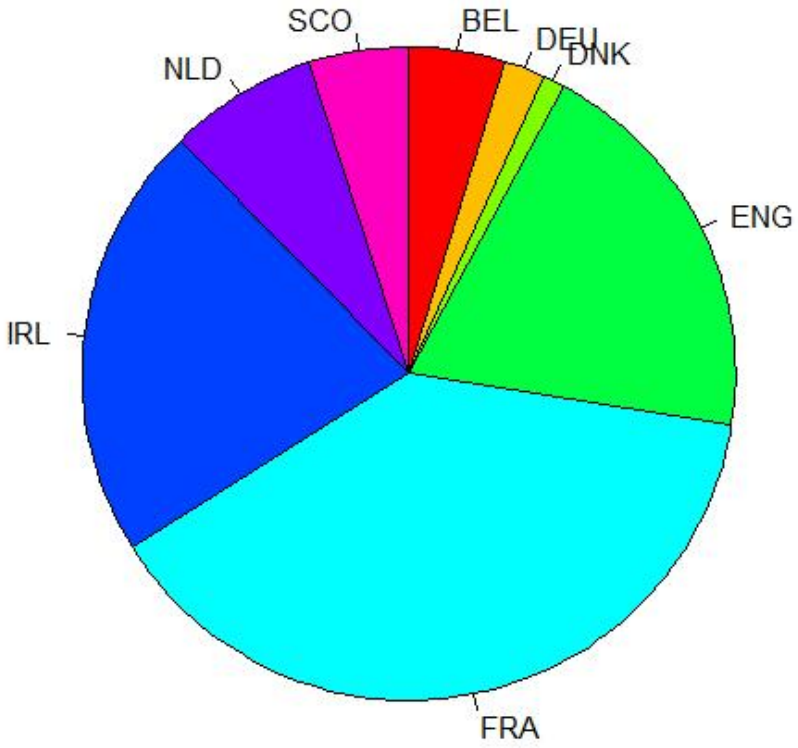


Figure 5.6.1.1.1. Contribution of each country (countries fishing less fishing less than 1% of the total catches were excluded from the figure) to the total effort (kW days at sea) in the Celtic Sea (7bcefghjk (Cel1), mean 2003-2011). **Spanish effort is missing.**

The proportion of defined gear groups in relation to the total effort over the years 2003-2011 (in order to exclude years with no Irish disaggregated data) of each gear category (Figure 5.6.1.1.2) shows that the two main "regulated" categories are TR1 and TR2. BT2 contribute to 14% on average to the reported fishing effort in 2003-2010.

The non-regulated gears are dominated by pelagic trawls and in to a lesser extend dredges and pots.

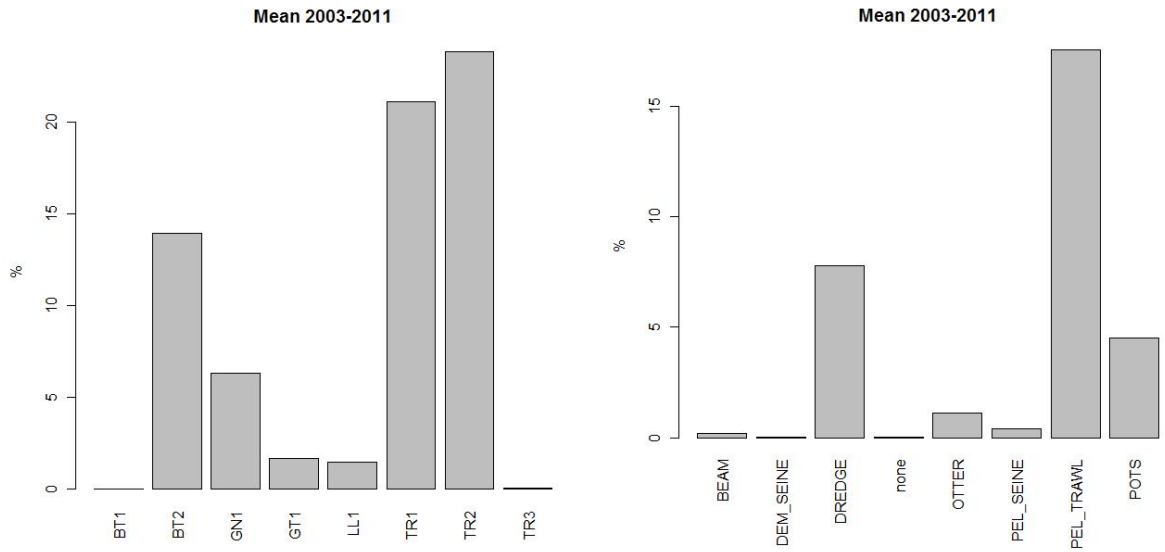


Figure 5.6.1.1.2. Contribution of each gear category to the total effort (kWdays) in the Celtic Sea (ICES Divisions VIIbc,e-k). Mean over 2003-2011. Spanish effort is missing.

The fishing effort in kW days at sea of unregulated gears accounts for about 30% of the total effort in the Celtic Sea. Most of this effort is due to Danish and Irish pelagic fisheries (pelagic boats fishing for boarfish in the Celtic Sea).

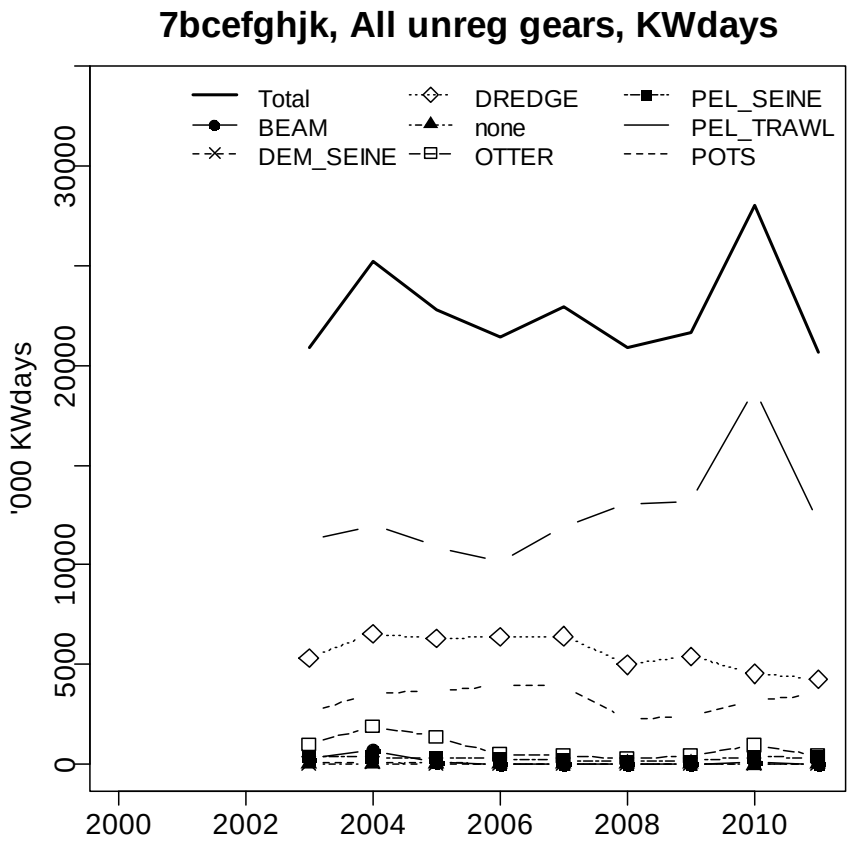


Fig. 5.6.1.1.3. Trend in nominal effort (kW days at sea) for unregulated gears in the Celtic Sea, 2003-2011.

Figures 5.6.1.1.4-7 show the recent trends in nominal effort for the various gear categories and mesh size in the Celtic Sea.

Total effort (Spanish data not available) has been decreasing since the start of the series.

Figures 5.6.1.1.4-7 show the nominal fishing effort for the whole gear categories.

The trend in kW days at sea of the cod sensitive gears shown in Figure 5.6.1.1.4 displays a slight decrease from 2003 to 2011

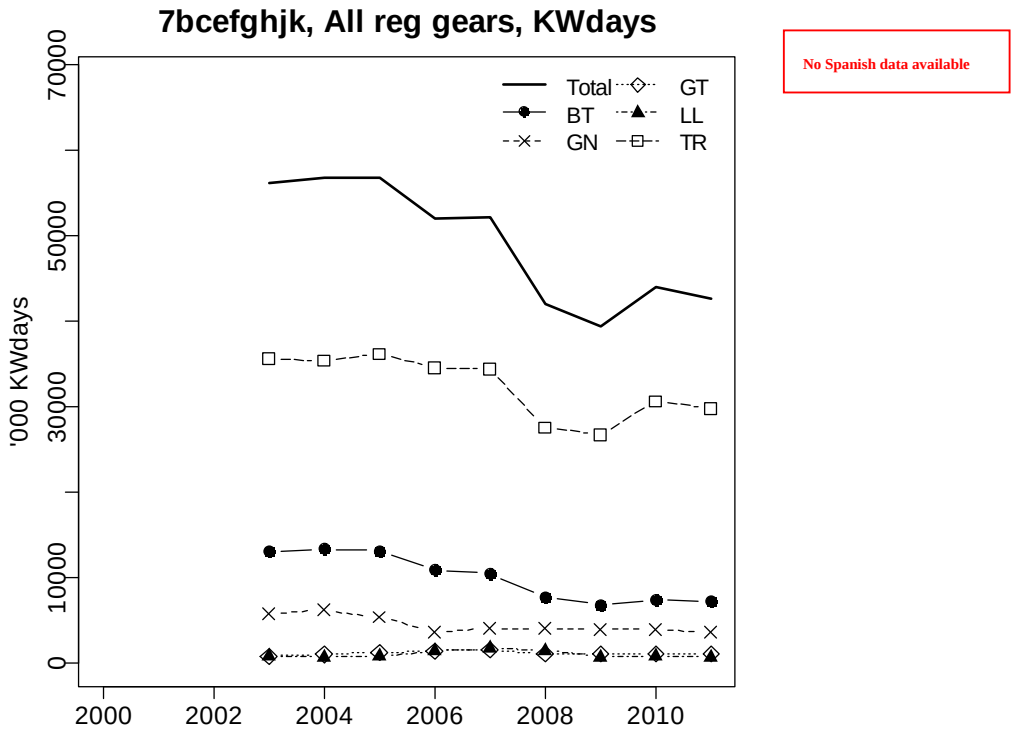


Fig. 5.6.1.1.4. Trend in nominal effort by gear types in the Celtic Sea (ICES Divisions VIIbc,e-k), 2003-2011.

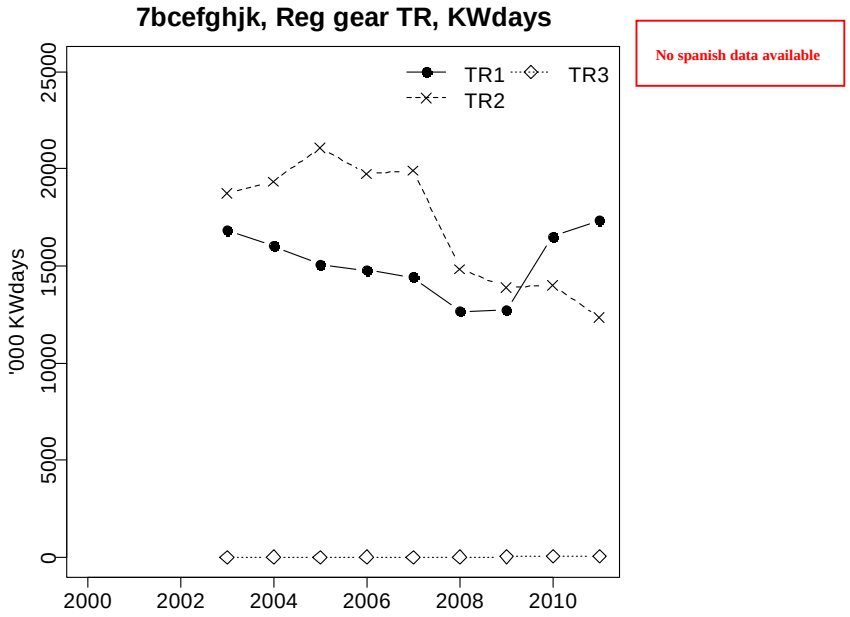


Fig. 5.6.1.1.5. Trend in nominal effort for demersal trawl (Regulated Gear TR1, TR2 and TR3) in the Celtic Sea (ICES Divisions VIIbc,e-k), 2003-2011.

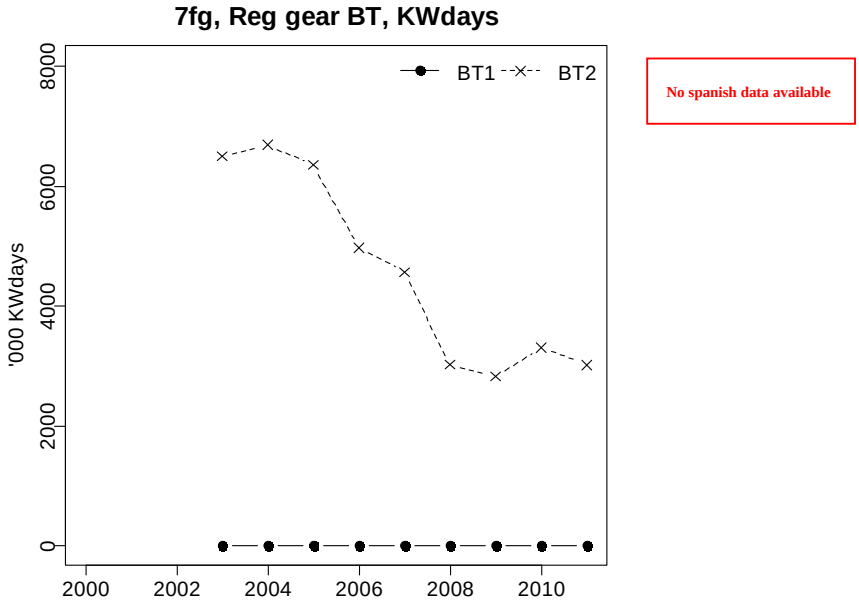


Fig5.6.1.1.6. Trend in nominal effort for beam trawl by mesh size range (Regulated Gear BT1, BT2) in the Celtic Sea (ICES Divisions VIIbc,e-k), 2003-2011.

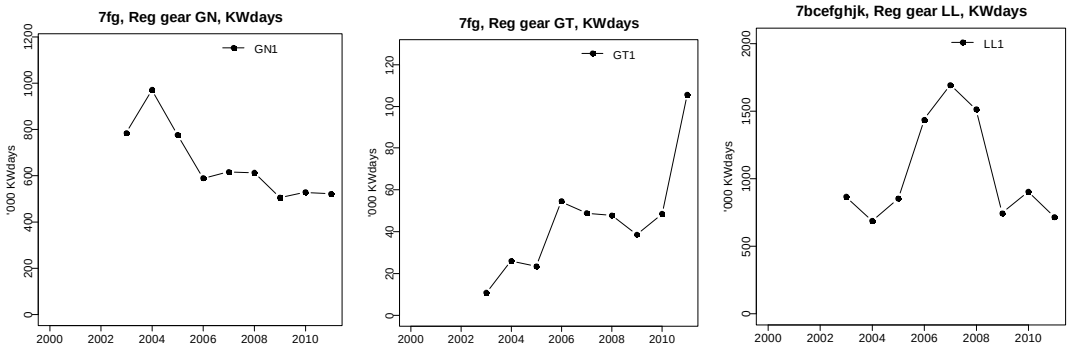


Fig. 5.6.1.1.7. Trend in nominal effort for Regulated Gear GT, GN1, LL1) in the Celtic Sea (ICES Divisions VIIbc,e-k), 2003-2011.

5.6.1.2 ICES sub-divisions 7fg (Cel2)

Table 5.6.1.2.1 Trend in effort (kW*days at sea), according to cod plan gear definition and Member State, 2000-2011. Note, data are for Celtic Sea subdivisions 7fg (Cel2).

ANNEX	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	VESSEL_LENGTH	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	BT1	none	ENG	O15M					8787							
Cel2	7fg	BT1	NONE	IRL	O15M				10273								
Cel2	7fg	BT2	none	BEL	O15M	2010209	1973485	2033727	2419519	3744619	3121706	2534199	2448583	1651116	1570823	1987520	1876094
Cel2	7fg	BT2	none	ENG	O10T15M	13039	54781	43428	60008	42075	9779		676	7691	7891	11403	13165
Cel2	7fg	BT2	none	ENG	O15M	1370570	1416562	884031	990442	970762	775553	645496	569682	403865	408146	392279	265057
Cel2	7fg	BT2	none	FRA	O10T15M						2200					1665	4131
Cel2	7fg	BT2	none	FRA	O15M							15965				486	
Cel2	7fg	BT2	none	GBJ	O15M	73487	86592	97414	151639	145409	46378						
Cel2	7fg	BT2	NONE	IRL	O10T15M								187				
Cel2	7fg	BT2	NONE	IRL	O15M				2877794	1784027	2398012	1779651	1544366	960802	840028	910631	863511
Cel2	7fg	GN1	none	BEL	O15M									1800			
Cel2	7fg	GN1	none	ENG	O10T15M	51225	89853	93277	116140	166518	116219	127376	112183	85832	88748	101641	126513
Cel2	7fg	GN1	none	ENG	O15M	358551	223562	406656	310997	347111	323813	278118	265198	223518	171258	184084	194244
Cel2	7fg	GN1	NONE	FRA	O10T15M												200
Cel2	7fg	GN1	none	FRA	O15M	97635	66740	79912	29862	37833	18804		5908	441	441	4199	6096
Cel2	7fg	GN1	none	GBJ	o15m											716	
Cel2	7fg	GN1	NONE	IRL	O10T15M	59427	34141	30370	36518	54249	44009	54520	48775	62188	86757	69146	54846
Cel2	7fg	GN1	NONE	IRL	O15M	148671	217754	123324	290182	366145	271954	130182	184209	239806	159271	168595	138422
Cel2	7fg	GN1	none	SCO	O15M				689	721	1337						2025
Cel2	7fg	GT1	none	ENG	O10T15M	55	428		373	243	4630	5447	5497	4186	9217	1538	8979
Cel2	7fg	GT1	none	ENG	O15M		1664	936	1197	23676	4647	21344	12802	12273	2052	5572	33508
Cel2	7fg	GT1	none	FRA	O10T15M					1458		7683				11645	8947
Cel2	7fg	GT1	none	FRA	O15M			8064	8456	801	14256	20068	21032	19104	19104	7506	37761
Cel2	7fg	GT1	NONE	IRL	O10T15M				802				4675	4720	7091	8434	10120
Cel2	7fg	GT1	NONE	IRL	O15M								4968	7649	1104	13840	6348
Cel2	7fg	LL1	none	ENG	O10T15M	38531	23718	9636	15155	3743	1093	703	2622	498	4673	3785	3719
Cel2	7fg	LL1	none	ENG	O15M	42597	57931	45243	12907	29331	43411	32066	11479	5879	215	828	909
Cel2	7fg	LL1	none	FRA	O15M			4500			4745		552	883	883		
Cel2	7fg	LL1	NONE	IRL	O10T15M								3583	4986	4137	2208	2935
Cel2	7fg	LL1	NONE	IRL	O15M		1432				2167					2240	
Cel2	7fg	LL1	none	SCO	O10T15M						221						
Cel2	7fg	LL1	none	SCO	O15M		886										

Celtic Sea 7fg (Cel2) Continued

ANNEX	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	VESSEL_LENGTH	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	TR1	none	ENG	O10T15M	6196	40056	51698	23520	4919	3621	7115	3761	4872	7425	15376	9544
Cel2	7fg	TR1	none	ENG	O15M	18435	90107	112701	88239	117608	76471	79283	70737	96274	107621	147472	129164
Cel2	7fg	TR1	none	FRA	o10t15m											330	1908
Cel2	7fg	TR1	none	FRA	O15M	2614199	3456521	17034562	3460445	3326622	3113639	2740592	2475013	2303217	2295080	3282997	2630843
Cel2	7fg	TR1	none	IOM	O15M	11967											
Cel2	7fg	TR1	NONE	IRL	O10T15M				402		1455	29926	11211	16349	13532	19349	36899
Cel2	7fg	TR1	NONE	IRL	O15M				685730	832656	855906	1022284	1382543	1632837	1965350	1856211	2224975
Cel2	7fg	TR1	none	NIR	O15M	7897	20675	12016	7641		716	5176		1141	1805	16028	23389
Cel2	7fg	TR1	none	SCO	O10T15M										745	894	
Cel2	7fg	TR1	none	SCO	O15M	979	11316	5266	9622	7701		9616	4479	12835	12332	86805	44476
Cel2	7fg	TR2	none	BEL	O15M					110564	168754	400049	443057	434936	449108	379027	250105
Cel2	7fg	TR2	none	ENG	O10T15M	187887	178191	169348	181115	154707	165360	257877	176637	225580	184298	192609	175504
Cel2	7fg	TR2	none	ENG	O15M	211818	146042	75092	96138	80260	86357	50874	55815	33883	40429	79839	29505
Cel2	7fg	TR2	none	FRA	O10T15M									3250	3250	1302	489
Cel2	7fg	TR2	none	FRA	O15M	1016773	1117706	2777768	711296	593609	731407	287766	355358	227706	227706	72113	38972
Cel2	7fg	TR2	none	GBG	O15M			421									
Cel2	7fg	TR2	none	GBJ	O15M	742											
Cel2	7fg	TR2	NONE	IRL	O10T15M				141564	132522	157952	196727	230785	221421	202541	194955	159901
Cel2	7fg	TR2	NONE	IRL	O15M				2312069	2227910	3152039	2603114	2625295	2081110	1658951	1838178	1285268
Cel2	7fg	TR2	none	NIR	O10T15M										1832	1832	
Cel2	7fg	TR2	none	NIR	O15M	28717	2620	2184		52370	72432	42938	20658	127726	141738	144049	6852
Cel2	7fg	TR2	none	SCO	O10T15M									162			
Cel2	7fg	TR2	none	SCO	O15M	4865			4770	12285	4095	2828		2531	29426	3626	17933
Cel2	7fg	TR3	none	ENG	O10T15M		358			373							1890
Cel2	7fg	TR3	none	ENG	O15M						1119						
Cel2	7fg	TR3	none	FRA	o10t15m											212	1163
Cel2	7fg	TR3	none	FRA	O15M	23695	4770										1458
Cel2	7fg	TR3	NONE	IRL	O10T15M									324			
Cel2	7fg	TR3	NONE	IRL	O15M							720			1500		1498
Cel2	7fg	TR3	none	NLD	O15M	4368											

Celtic Sea 7fg (Cel2) Continued

ANNEX	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	VESSEL_LENGTH	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	BEAM	none	BEL	O15M		11011								6709	9597	10406
Cel2	7fg	BEAM	none	ENG	O10T15M						214						
Cel2	7fg	BEAM	none	ENG	O15M		369		1967	330	3604	369		884			
Cel2	7fg	BEAM	NONE	IRL	NONE												
Cel2	7fg	BEAM	NONE	IRL	O15M	2481370	2700743	2484287	238874	625594	5372						
Cel2	7fg	DEM_SEINE	NONE	IRL	O15M	334262	495211	683217	15758	76406	7498						
Cel2	7fg	DREDGE	none	BEL	O15M									10708	4429	5958	5229
Cel2	7fg	DREDGE	none	ENG	O10T15M	4771	2316	536	8101	1934	1740	592	2426	8788	3453	34465	45943
Cel2	7fg	DREDGE	none	ENG	O15M	26551	14882	1927	1520	10671	16336	5658	1458	6034	884	1460	5704
Cel2	7fg	DREDGE	none	FRA	o10t15m											1291	2083
Cel2	7fg	DREDGE	none	FRA	O15M				4416		750					1112	1621
Cel2	7fg	DREDGE	none	GBJ	O15M	1492											
Cel2	7fg	DREDGE	none	IOM	O10T15M									911			
Cel2	7fg	DREDGE	none	IOM	O15M		637	2262				3720	372				
Cel2	7fg	DREDGE	NONE	IRL	O10T15M	360								6200	179	1543	
Cel2	7fg	DREDGE	NONE	IRL	O15M	507226	175931	166323	355425	161117	162396	37161	111079	109674	157541	166199	156686
Cel2	7fg	DREDGE	none	NLD	O15M				19854			43017	3728	4725	1628		
Cel2	7fg	DREDGE	none	SCO	O10T15M											6732	
Cel2	7fg	DREDGE	none	SCO	O15M	5651	7323	1354		2000	16246	39971	13036	21843	56181	90166	7184
Cel2	7fg	none	NONE	IRL	O10T15M			2088					233	179			
Cel2	7fg	none	NONE	IRL	O15M			375									
Cel2	7fg	OTTER	none	BEL	O15M	39210	30275	35195	21681								
Cel2	7fg	OTTER	none	ENG	O10T15M	356	4714	7640	10791	642	36523	4432	36302	1860	21806	15590	26191
Cel2	7fg	OTTER	none	ENG	O15M		215	1075	463		1850	1572	17152		6007	12232	4255
Cel2	7fg	OTTER	none	FRA	o10t15m											338	
Cel2	7fg	OTTER	none	FRA	O15M	662	9278			14904						14272	1966
Cel2	7fg	OTTER	NONE	IRL	NONE												
Cel2	7fg	OTTER	NONE	IRL	O10T15M	106395	137414	123735	20639	9912	894	2100		240	145		
Cel2	7fg	OTTER	NONE	IRL	O15M	1535703	1809973	1965956	24150	267713		615	619	1472	1500	8989	8214
Cel2	7fg	OTTER	none	SCO	O10T15M										4470		
Cel2	7fg	OTTER	none	SCO	O15M	12420									798	4796	
Cel2	7fg	PEL_SEINE	none	ENG	O10T15M	8206											179
Cel2	7fg	PEL_SEINE	none	ENG	o15m											5062	
Cel2	7fg	PEL_SEINE	none	FRA	O15M				3087								
Cel2	7fg	PEL_SEINE	NONE	IRL	O10T15M				5670								
Cel2	7fg	PEL_SEINE	NONE	IRL	O15M				11896	37539	8338						
Cel2	7fg	PEL_SEINE	none	NLD	O15M		440										
Cel2	7fg	PEL_SEINE	NONE	SCO	O15M												2430
Cel2	7fg	PEL_TRAWL	none	DEU	O15M										5299	8589	
Cel2	7fg	PEL_TRAWL	none	DNK	o15m											32320	
Cel2	7fg	PEL_TRAWL	none	ENG	O15M	5072											
Cel2	7fg	PEL_TRAWL	none	FRA	o10t15m											294	
Cel2	7fg	PEL_TRAWL	none	FRA	O15M	93021	61568	176198	10238	4097	4585	7331	1851			3310	4196
Cel2	7fg	PEL_TRAWL	NONE	IRL	O10T15M					2370			187	653		265	5211
Cel2	7fg	PEL_TRAWL	NONE	IRL	O15M	408382	357324	249963	262815	293567	119426	161226	152567	131130	192055	263063	420940
Cel2	7fg	PEL_TRAWL	none	NLD	O15M	13194	6600	17237	153230	115456	7210	4853	47101			3960	
Cel2	7fg	PEL_TRAWL	none	SCO	O15M			1842									
Cel2	7fg	POTS	none	ENG	O10T15M	201579	268387	323397	405230	406212	458422	319320	366223	404291	426106	449532	392028
Cel2	7fg	POTS	none	ENG	O15M	96320	118015	52460	42177	98951	94391	82850	115136	160299	171922	209613	216975
Cel2	7fg	POTS	none	FRA	o10t15m											558	1398
Cel2	7fg	POTS	none	FRA	O15M	22144	25949	150187	25296	21435	30680	53838	38996	23492	23492	50447	62606
Cel2	7fg	POTS	none	GBG	O15M	1846	26319						20910	16433	20888		
Cel2	7fg	POTS	none	GBJ	O15M	8384	26568	19068	984	3772				34730	11426		
Cel2	7fg	POTS	none	IOM	O15M										9840		25256
Cel2	7fg	POTS	NONE	IRL	O10T15M			1969	143	733	9459	15246	28421	30421	28253	38378	39674
Cel2	7fg	POTS	NONE	IRL	O15M			15774		1044	1568				15774	30114	18642
Cel2	7fg	POTS	none	NIR	o10t15m											7833	
Cel2	7fg	POTS	none	SCO	O10T15M		425										3870

Contributions by different countries to overall effort in the smaller area, VIIfg are shown in (Figure 5.6.1.2.1). Vessels from Belgium, France, Ireland and UK(E-W) operate in the Divisions VIIfg. In terms of kW*days, Ireland contributes to 43%, France 23%, UK 14% and Belgium 19% (average 2003-2010).

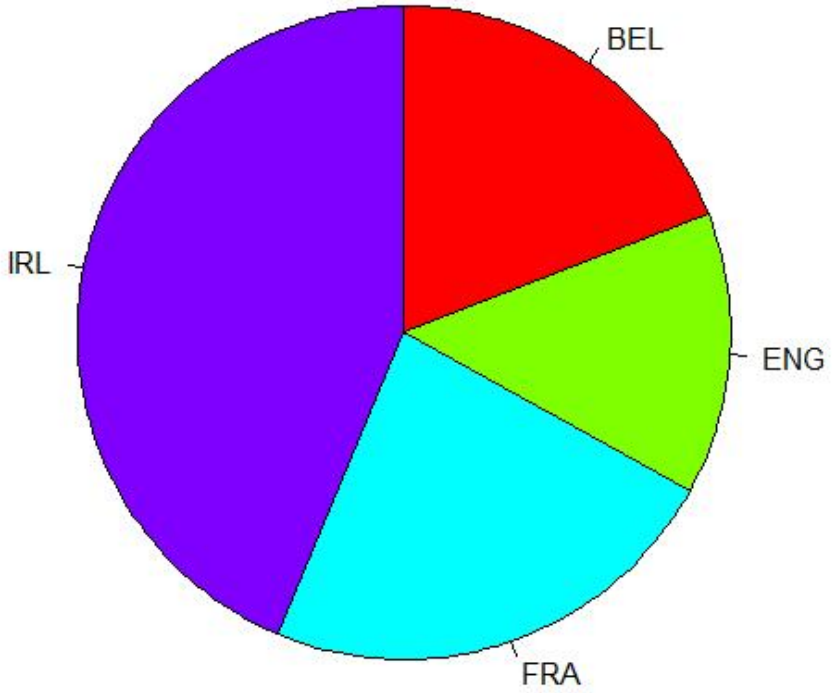


Figure 5.6.1.2.1. Contribution of each country (Countries fishing less fishing less than 1% of the total catches were excluded from the figure) to the total effort in the Divisions VIIfg (mean 2003-2011).

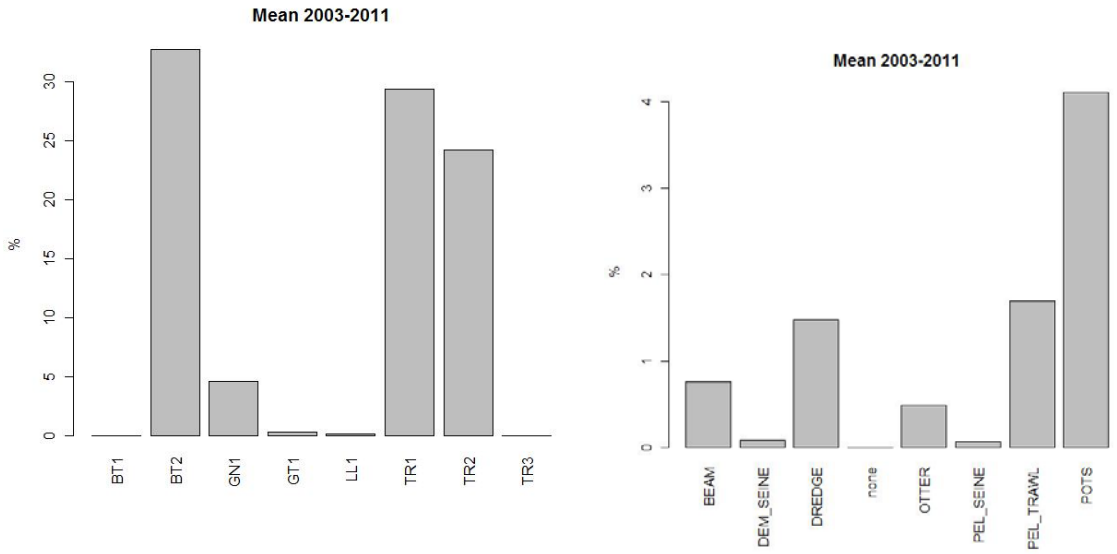


Figure 5.6.1.2.2. Contribution of each gear category to the total effort (kW*days) in the ICES Divisions VIIfg. Mean over 2003-2011.

The mean proportion of total effort over the period 2003-2010 (excluded years with no Irish disaggregated data) of each gear category (Figure 5.6.1.2.2) shows that the fishery in this area is dominated (33%) by the BT2. TR1 and TR2 and contribute a further 29 and 24% respectively.

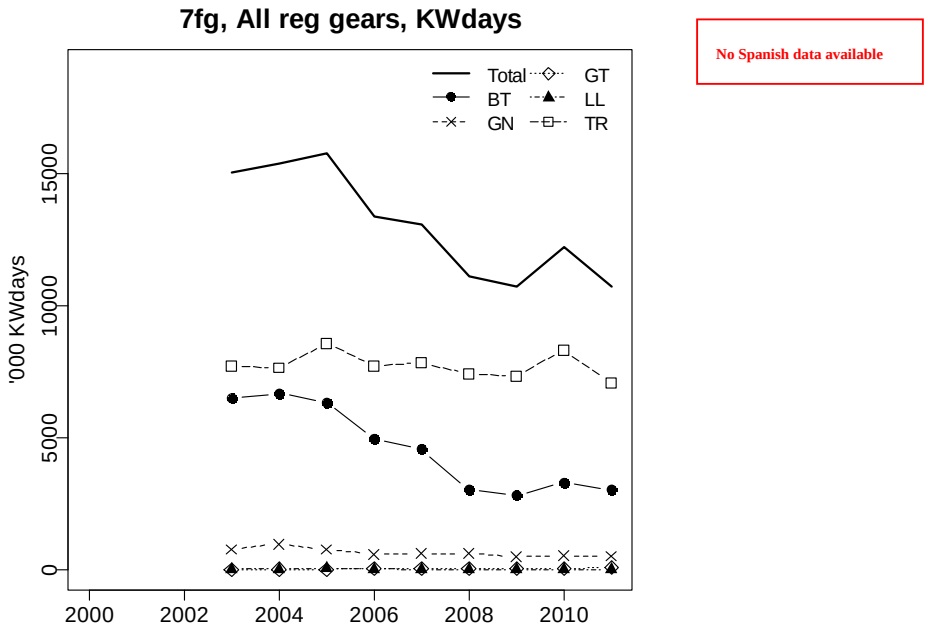
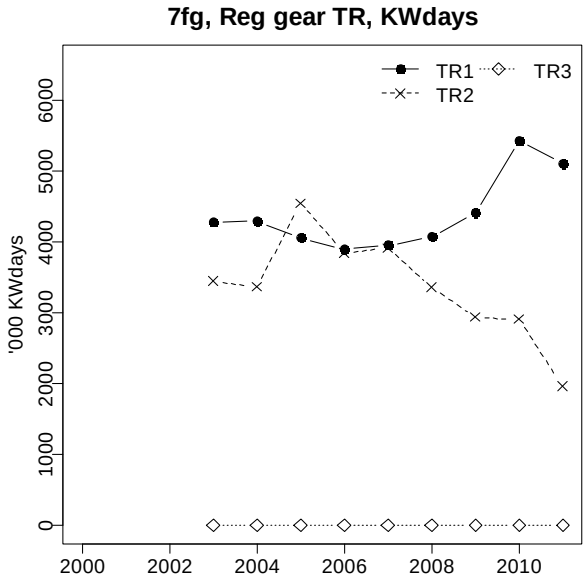
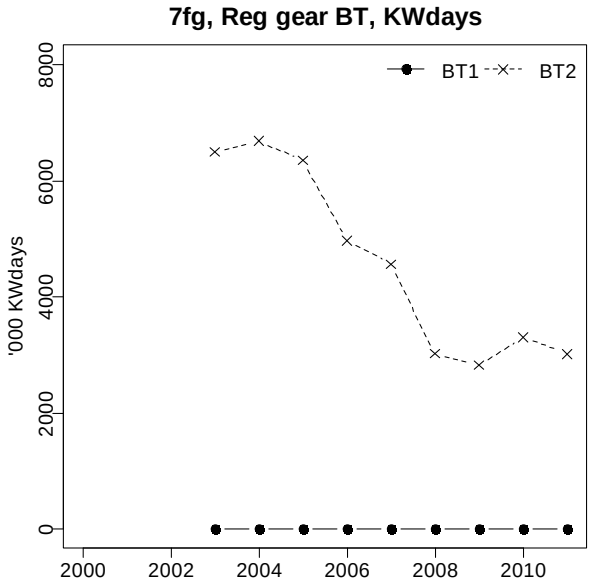


Fig. 5.6.1.2.3. Trend in nominal effort by gear types in the Celtic Sea (ICES Divisions VIIfg), 2003-2011.



No Spanish data available

Fig. 5.6.1.2.4. Trend in nominal effort for demersal trawl (Regulated Gear TR1, TR2 and TR3) in the Celtic Sea (ICES Divisions VIIfg), 2003-2011.



No Spanish data available

Fig. 5.6.1.2.5. Trend in nominal effort for beam trawl by mesh size range (Regulated Gear BT1, BT2) in the Celtic Sea (ICES Divisions VIIfg), 2003-2011.

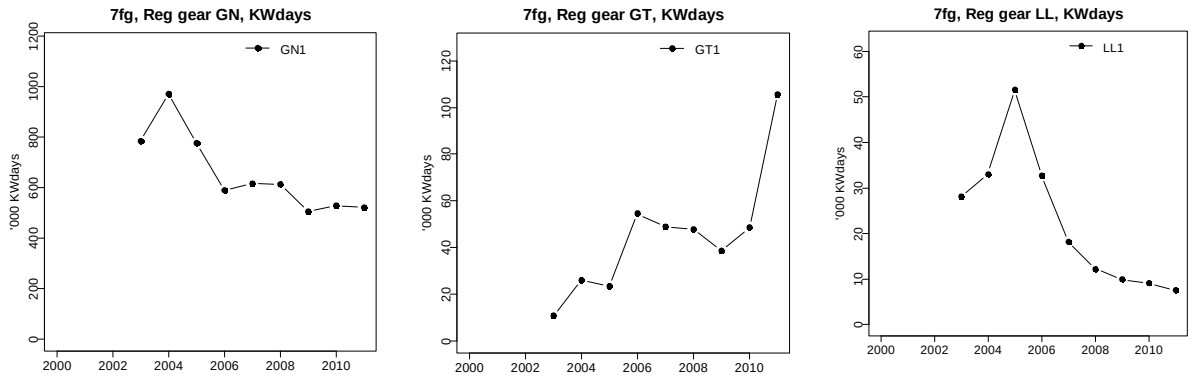


Fig. 5.6.1.2.6. Trend in nominal effort for beam trawl by mesh size range (Regulated Gear GT, GN1, LL1) in the Celtic Sea (ICES Divisions VIIfg), 2003-2011.

The total effort in area VIIfg has decreased by 16% since 2003. This decrease is mostly due to BT2 (a reduction of 29%). However in 2010, mostly all gear categories have increased and especially the gear category TR1 which increased by 30% in the last year.

5.6.2 ToR 1.b Catches (landings and discards) of cod in weight and numbers at age by area, Member State and fisheries

5.6.2.1 ICES sub-divisions 7bcefghjk (Cel1)

STECF EWG 12-12 notes that discard information is scarce and thus presents only landing figures. The same applies for age distributions by fisheries.

Table 5.6.2.1.1 lists the cod landings by Member States and gears, 2003-2011.

Table 5.6.2.1.1 Cod landings by Member States and gears, 2003-2001.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	BEL	BEAM	COD		0.111	0.217		0.093		0.1	0.068	0.453
Cel1	7bcefghjk	BEL	BT1	COD						0.335			
Cel1	7bcefghjk	BEL	BT2	COD	124.07	147.502	179.323	91.836	92.296	55.547	34.832	37.585	86.957
Cel1	7bcefghjk	BEL	OTTER	COD	8.003								
Cel1	7bcefghjk	BEL	TR2	COD		2.725	4.699	9.77	14.57	8.967	14.188	14.014	35.434
Cel1	7bcefghjk	ENG	BEAM	COD	0.046		0.44	0.172		0.011	0.01	0.016	0.143
Cel1	7bcefghjk	ENG	BT1	COD		1.21							
Cel1	7bcefghjk	ENG	BT2	COD	103.027	85.24	99.455	91.818	111.669	71.749	67.306	65.636	98.897
Cel1	7bcefghjk	ENG	DREDGE	COD	0.035	0.062	0.067	0.091	0.099	0.04	0.096	0.11	0.269
Cel1	7bcefghjk	ENG	GN1	COD	86.212	88.136	96.699	126.721	123.851	71.273	84.579	54.718	72.296
Cel1	7bcefghjk	ENG	GT1	COD		0.003	1.146	1.545	2.293	1.53	0.692	0.699	2.312
Cel1	7bcefghjk	ENG	LL1	COD	6.021	0.042	2.677	2.978	0.72	0.062	0.04	0.117	0.394
Cel1	7bcefghjk	ENG	OTTER	COD	0.009	0.257	0.15	0.004	0.46	0.321	0.03	0.16	0.085
Cel1	7bcefghjk	ENG	PEL_SEINE	COD								0.126	
Cel1	7bcefghjk	ENG	PEL_TRAW	COD	0.104	0.024			0.069	0.007	0.03	0.092	0.073
Cel1	7bcefghjk	ENG	POTS	COD	0.412	0.018	0.011	0.093	0.107	0.178	0.129	0.242	0.37
Cel1	7bcefghjk	ENG	TR1	COD	40.809	26.984	21.295	32.43	21.876	27.349	16.722	24.085	43.595
Cel1	7bcefghjk	ENG	TR2	COD	64.596	40.502	48.635	53.06	79.702	60.178	38.959	52.825	41.573
Cel1	7bcefghjk	ENG	TR3	COD	0.005		0.233			0.011	0.036		
Cel1	7bcefghjk	FRA	BEAM	COD			0.002						
Cel1	7bcefghjk	FRA	BT2	COD	0.002	0.885	0.028	2.974	0.102	0.021	0.021	0.544	0.312
Cel1	7bcefghjk	FRA	DREDGE	COD	0.288	0.034	0.037	0.06	1.075	1.752	1.752	5.327	0.3291
Cel1	7bcefghjk	FRA	GN1	COD	11.279	8.45	4.912	5.478	3.997	5.107	5.107	5.9706	32.6422
Cel1	7bcefghjk	FRA	GT1	COD	13.603	9.215	11.227	5.866	8.448	10.63	10.63	21.3039	35.7527
Cel1	7bcefghjk	FRA	LL1	COD	8.756	4.655	0.633	16.829	2.01	1.818	1.818	2.658	8.261
Cel1	7bcefghjk	FRA	none	COD	0.006				0.012				1.604
Cel1	7bcefghjk	FRA	OTTER	COD	0.7	2.072	0.375	0.031	0.532	0.077	0.077	5.931	6.81238
Cel1	7bcefghjk	FRA	PEL_TRAW	COD	0.838	0.008	0.1	0.3	0.088	0.003	0.003	4.93	2.764
Cel1	7bcefghjk	FRA	POTS	COD		0.002						0.4007	1
Cel1	7bcefghjk	FRA	TR1	COD	2396.257	1118.188	622.914	673.277	790.633	665.85	664.402	1030.795	2467.637
Cel1	7bcefghjk	FRA	TR2	COD	742.602	288.158	353.335	379.731	459.729	359.223	358.789	324.733	383.6435
Cel1	7bcefghjk	FRA	TR3	COD				0.004				3.3532	4.687
Cel1	7bcefghjk	GBG	TR2	COD				0.035	0.017	0.013		0.023	0.002
Cel1	7bcefghjk	GBJ	BEAM	COD		0.046							
Cel1	7bcefghjk	GBJ	BT2	COD	6.487	10.573	4.43						
Cel1	7bcefghjk	GBJ	TR2	COD	0.004			0.011	0.104	0.08	0.028	0.092	0.17
Cel1	7bcefghjk	IRL	BEAM	COD	4.7	26.25	0.52						
Cel1	7bcefghjk	IRL	BT2	COD	68.41	82.18	167.12	165	118	93.6	82.48	100.22	86.54
Cel1	7bcefghjk	IRL	DEM_SEIN	COD	0.6	5.04	1.35						
Cel1	7bcefghjk	IRL	DREDGE	COD	0.91	1.2		0.14					
Cel1	7bcefghjk	IRL	GN1	COD	42.59	79.48	99.04	84.39	93.68	102.28	93.3	92.05	105.06
Cel1	7bcefghjk	IRL	GT1	COD	0.09			0.04	0.08	0.08	0.17	1.88	0.67
Cel1	7bcefghjk	IRL	LL1	COD			0.3	0.13	0.04	0.79	0.09	0	
Cel1	7bcefghjk	IRL	none	COD									0.11
Cel1	7bcefghjk	IRL	OTTER	COD	6.65	36.82	0.05	0.13	0	0	0	0.03	0
Cel1	7bcefghjk	IRL	PEL_SEINE	COD	4.52	4.96	0.53						
Cel1	7bcefghjk	IRL	PEL_TRAW	COD	0.58	4.66	0.85	0.64	0.43				0.69
Cel1	7bcefghjk	IRL	POTS	COD	0.05	0.66	0.17	0.13	0.1		2.7	0.2	1.45
Cel1	7bcefghjk	IRL	TR1	COD	96.05	119.13	164.68	206.38	180.88	209.45	277.96	393.25	423.3
Cel1	7bcefghjk	IRL	TR2	COD	247.36	235.45	369.74	405.41	300.71	278.08	238.03	314.26	239.96
Cel1	7bcefghjk	IRL	TR3	COD	0.04	0.17		0.12		0	0	0	0.32
Cel1	7bcefghjk	NIR	TR1	COD	2.162			0.17			0.027	0.45	14.406
Cel1	7bcefghjk	NIR	TR2	COD		3.025	4.449	4.877	1.899	17.084	16.147	13.349	1.094
Cel1	7bcefghjk	NLD	LL1	COD							0		
Cel1	7bcefghjk	NLD	TR1	COD									1
Cel1	7bcefghjk	NLD	TR2	COD							4	3	7
Cel1	7bcefghjk	SCO	BT2	COD					1.17				
Cel1	7bcefghjk	SCO	DREDGE	COD	0.0568		0.0023	0.0076	0.001	0.0256	0.0166	0.0086	
Cel1	7bcefghjk	SCO	GN1	COD			1.2014	0.2925			0.005		
Cel1	7bcefghjk	SCO	TR1	COD	8.0381	10.9017		3.481	1.6469	6.0306	4.7143	7.7995	28.8105
Cel1	7bcefghjk	SCO	TR2	COD	1.3683	2.4558		1.9023	1.3295	2.5916	0.9137	1.0723	8.1753
sum					4098.346	2447.484	2263.043	2368.354	2414.518	2052.144	2020.93	2584.124	4247.054

5.6.2.2 ICES sub-divisions 7fg (Cel2)

STECF EWG 12-12 notes that discard information is scarce and thus presents only landing figures. The same applies for age distributions by fisheries.

Table 5.6.2.2.1 lists the cod landings by Member States and gears, 2003-2011.

Table 5.6.2.2.1 Cod landings (t) by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	BEL	BEAM	COD		0.111	0.217		0.093		0.1	0.068	0.453
Cel2	7fg	BEL	BT2	COD	120.328	141.632	171.674	86.044	86.225	50.632	27.826	32.115	80.394
Cel2	7fg	BEL	OTTER	COD	8.003								
Cel2	7fg	BEL	TR2	COD		2.725	4.547	9.617	14.449	8.948	13.088	13.386	29.809
Cel2	7fg	ENG	BEAM	COD	0.027		0.425			0.011			
Cel2	7fg	ENG	BT1	COD		0.221							
Cel2	7fg	ENG	BT2	COD	44.105	35.084	32.418	27.547	33.199	15.183	8.976	12.172	16.12
Cel2	7fg	ENG	DREDGE	COD									0.002
Cel2	7fg	ENG	GN1	COD	42.768	57.018	70.565	98.964	89.124	51.483	49.532	29.824	33.647
Cel2	7fg	ENG	GT1	COD		0	0.231	1.213	1.97	0.934	0.652	0.324	0.596
Cel2	7fg	ENG	LL1	COD	1.033		2.496	1.867	0.133		0.008	0.009	0.188
Cel2	7fg	ENG	OTTER	COD			0.128		0.249	0.012	0.001	0.009	0.076
Cel2	7fg	ENG	POTS	COD	0.013							0.003	
Cel2	7fg	ENG	TR1	COD	8.364	14.676	5.224	5.43	3.627	2.437	2.539	2.933	2.737
Cel2	7fg	ENG	TR2	COD	12.766	8.335	13.039	17.756	15.288	10.074	4.773	9.037	9.461
Cel2	7fg	ENG	TR3	COD			0.103						
Cel2	7fg	FRA	BT2	COD				2.079				0.02	0.025
Cel2	7fg	FRA	GN1	COD	1.722	1.775	0.116		0.228	0.058	0.058	0.28	0.95
Cel2	7fg	FRA	GT1	COD	0.539	0.023	0.533	0.43	0.687	0.612	0.612	0.6	2.73
Cel2	7fg	FRA	LL1	COD			0.025						
Cel2	7fg	FRA	OTTER	COD		1.68						1.75	1.41
Cel2	7fg	FRA	PEL_TRAWL	COD				0.112					1.275
Cel2	7fg	FRA	TR1	COD	2023.918	945.649	519.461	522.138	605.946	443.537	442.621	669.67	1102.708
Cel2	7fg	FRA	TR2	COD	196.071	89.287	84.618	46.927	59.485	20.052	20.052	19.77	8.2589
Cel2	7fg	FRA	TR3	COD									0.763
Cel2	7fg	GBJ	BT2	COD	4.137	6.072	1.256						
Cel2	7fg	IRL	BEAM	COD	4.51	23.74	0.52						
Cel2	7fg	IRL	BT2	COD	54.03	65.9	141.89	153.16	105.15	88.35	77.77	96.93	84.43
Cel2	7fg	IRL	DEM_SEINE	COD	0.37	4.96	1.22						
Cel2	7fg	IRL	DREDGE	COD	0.55	1.03		0.14					
Cel2	7fg	IRL	GN1	COD	31.92	71.59	92.27	71.34	85.45	92.43	83.2	77.44	82.82
Cel2	7fg	IRL	GT1	COD	0.09				0.04	0.04		1.42	0.47
Cel2	7fg	IRL	LL1	COD							0	0	
Cel2	7fg	IRL	OTTER	COD	4.86	30.59	0	0.02	0	0	0	0	0
Cel2	7fg	IRL	PEL_SEINE	COD	4.52	4.81	0.53						
Cel2	7fg	IRL	PEL_TRAWL	COD	0.58	4.47		0.56	0.27				0.69
Cel2	7fg	IRL	POTS	COD		0.66	0.03				0.02	0.16	1.45
Cel2	7fg	IRL	TR1	COD	43.18	62.68	101.39	150.08	143.5	174.31	227.31	298	311.55
Cel2	7fg	IRL	TR2	COD	170.42	187.24	331.29	382.84	272.33	251.17	224.78	294.53	214.09
Cel2	7fg	IRL	TR3	COD				0.12		0	0		0
Cel2	7fg	NIR	TR1	COD	2.162			0.17			0.027	0.45	13.763
Cel2	7fg	NIR	TR2	COD		3.025	4.449	4.877	1.899	17.084	16.044	13.16	1.094
Cel2	7fg	SCO	DREDGE	COD				0.001					
Cel2	7fg	SCO	GN1	COD			1.2014						
Cel2	7fg	SCO	TR1	COD	1.5245	0.4748		0.1477		0.0346	0.1042	2.8326	3.8738
Cel2	7fg	SCO	TR2	COD	1.3619	2.3575		0.0339		0.0768			1.4564
SUM					2783.872	1767.815	1581.866	1583.614	1519.342	1227.468	1200.093	1576.893	2007.29

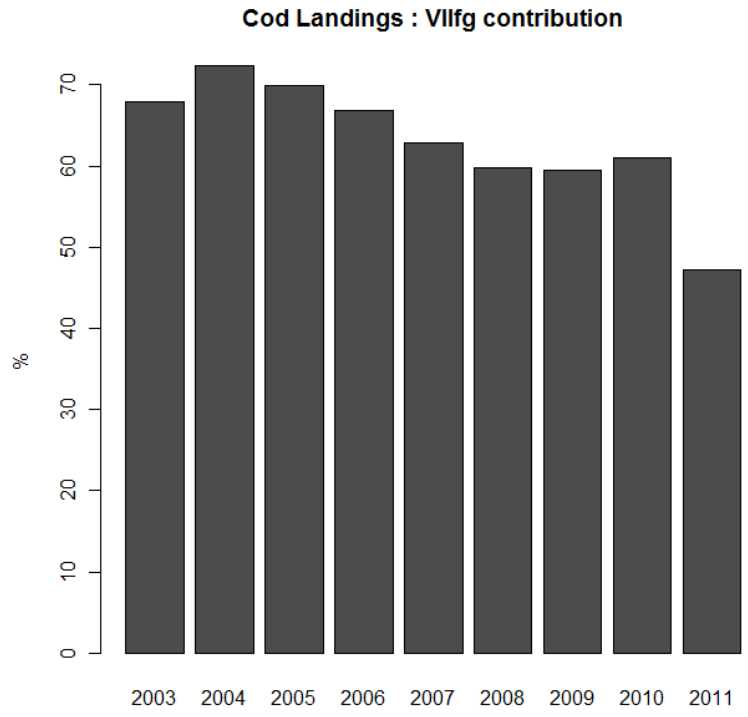


Figure 5.6.2.2.1 Cod: Contribution of the landings from ICES Divisions VIIfg to the total landings from the Celtic Sea (ICES Divisions VIIbc,e-k) over 2003-2011

5.6.3 ToR 1.c Catches (landings and discards) of non-cod species in weight and numbers at age by area, Member State and fisheries

5.6.3.1 ICES sub-divisions 7bcefghjk (Cel1)

STECF EWG 12-12 notes that discard information is scarce and thus presents only landing figures. The same applies for age distributions by fisheries.

Table 5.6.3.1.1-7 lists the anglerfish, haddock, hake, Nephrops, plaice, sole, and whiting landings by Member States and gears, 2003-2011.

Table 5.6.3.1.1 Anglerfish landings (t) by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	BEL	BEAM	ANF	1.86	69.384	0.714	0.339	1.725		0.549	1.134	3.225
Cel1	7bcefghjk	BEL	BT2	ANF	730.977	969.75	763.155	755.394	849.828	434.538	373.08	516	785.666
Cel1	7bcefghjk	BEL	DREDGE	ANF						0.237	3.171	2.704	1.731
Cel1	7bcefghjk	BEL	GN1	ANF						0.441			
Cel1	7bcefghjk	BEL	OTTER	ANF	0.888								
Cel1	7bcefghjk	BEL	TR2	ANF		17.925	27.411	57.462	59.676	76.845	69.156	54.045	51.6
Cel1	7bcefghjk	DEU	GN1	ANF	150.032	196.75	142.172	35.373	226.44	248.113	168.485	251.471	184.78
Cel1	7bcefghjk	DEU	POTS	ANF	0.172								
Cel1	7bcefghjk	ENG	BEAM	ANF	0.28	0.125	4.118	4.607	1.629		1.632	3.058	2.294
Cel1	7bcefghjk	ENG	BT1	ANF		10.79							
Cel1	7bcefghjk	ENG	BT2	ANF	1306.206	1556.588	1583.802	1619.029	1986.091	1621.344	1616.624	2070.067	2335.656
Cel1	7bcefghjk	ENG	DREDGE	ANF	29.874	30.681	33.171	60.544	55.966	28.764	47.249	70.39	93.015
Cel1	7bcefghjk	ENG	GN1	ANF	299.437	408.932	593.127	306.081	535.198	293.233	218.626	397.277	198.96
Cel1	7bcefghjk	ENG	GT1	ANF	0.288	8.685	30.48	78.825	12.409	20.819	20.166	15.011	73.592
Cel1	7bcefghjk	ENG	LL1	ANF	8.464	1.142	1.23	0.352	2.478	0.061	0.017	0.057	0.031
Cel1	7bcefghjk	ENG	OTTER	ANF	0.461	0.29	0.322	0.074	0.436	0.157	0.546	0.917	0.333
Cel1	7bcefghjk	ENG	PEL_TRAWL	ANF							0.068	0.019	0.003
Cel1	7bcefghjk	ENG	POTS	ANF	2.955	0.347	0.042	0.115	0.662	0.551	0.105	0.157	0.136
Cel1	7bcefghjk	ENG	TR1	ANF	588.24	512.023	433.874	654.319	827.501	740.172	734.38	975.924	1343.175
Cel1	7bcefghjk	ENG	TR2	ANF	363.065	277.261	345.145	286.182	434.38	295.299	304.062	364.261	282.11
Cel1	7bcefghjk	ENG	TR3	ANF	0.009		0.252				0.006		
Cel1	7bcefghjk	FRA	BEAM	ANF			0.099	0.001					
Cel1	7bcefghjk	FRA	BT2	ANF	0.56	0.731	3.724	9.612	3.185	0.096	0.096	0.037	0.01
Cel1	7bcefghjk	FRA	DREDGE	ANF	7.947	13.77	7.571	5.813	9.913	5.428	5.409	0.24	1.2673
Cel1	7bcefghjk	FRA	GN1	ANF	1203.62	1590.054	1640.339	893.434	1146.897	1961.755	1961.755	268.5335	644.7786
Cel1	7bcefghjk	FRA	GT1	ANF	795.043	1273.253	1417.91	1014.027	1226.742	1218.735	1218.735	157.11	607.4022
Cel1	7bcefghjk	FRA	LL1	ANF	0.129	0.036	0.381	0.206	0.227	0.022	0.022		0.16
Cel1	7bcefghjk	FRA	none	ANF	0.075	0.506	0.916	0.101	0.003	0.049	0.049		2.043
Cel1	7bcefghjk	FRA	OTTER	ANF	15.353	10.9	20.738	1.342	2.223	0.382	0.382	4.22	18.0313
Cel1	7bcefghjk	FRA	PEL_SEINE	ANF									1.5
Cel1	7bcefghjk	FRA	PEL_TRAWL	ANF	0.065	0.136	0.815	8.615	2.314	0.304	0.304		1.564
Cel1	7bcefghjk	FRA	POTS	ANF	2.49	0.773	2.022	0.473	3.105	0.2	0.2	1.76	0.37
Cel1	7bcefghjk	FRA	TR1	ANF	3482.92	3436.553	2633.101	3797.081	3924.894	2866.48	2851.53	1243.376	4975.548
Cel1	7bcefghjk	FRA	TR2	ANF	3382.162	3443.435	3415.986	2697.8	2909.464	2097.271	2094.891	485.4	1167.473
Cel1	7bcefghjk	FRA	TR3	ANF	0.198	0.02		0.066		0.04	0.04		10.126
Cel1	7bcefghjk	GBG	TR2	ANF						0.024	0.003	0.009	
Cel1	7bcefghjk	GBJ	BEAM	ANF		0.007							
Cel1	7bcefghjk	GBJ	BT2	ANF	84.567	94.121	53.737						
Cel1	7bcefghjk	GBJ	DREDGE	ANF	0.167								
Cel1	7bcefghjk	GBJ	TR2	ANF				0.192	0.018	0.079	0.044	0.116	0.058
Cel1	7bcefghjk	IOM	DREDGE	ANF				2.937	0.132				
Cel1	7bcefghjk	IRL	BEAM	ANF	11.16	67.88	0.46						
Cel1	7bcefghjk	IRL	BT1	ANF	0.75								
Cel1	7bcefghjk	IRL	BT2	ANF	214.79	209.34	471.02	557.63	392.86	390.21	476.51	485.2	468.79
Cel1	7bcefghjk	IRL	DEM_SEINE	ANF	4.72	8.81	3.07						
Cel1	7bcefghjk	IRL	DREDGE	ANF	35.26	6.06	4.2	0.44	0.13		0.05		0
Cel1	7bcefghjk	IRL	GN1	ANF	62.28	65.94	64.74	54.74	26.65	20.09	37.37	32.6	47.72
Cel1	7bcefghjk	IRL	GT1	ANF	0.1	0.01		1.22	6.22	13.24	10.29	24.28	17.94
Cel1	7bcefghjk	IRL	LL1	ANF	0.55		5.19		0.1	0.01	0.01		0.05
Cel1	7bcefghjk	IRL	none	ANF			0.14						4.12
Cel1	7bcefghjk	IRL	OTTER	ANF	15.89	146.7	12.7	2.32	0.03	0	0.08	0	4.75
Cel1	7bcefghjk	IRL	PEL_SEINE	ANF	2.97	4.87	0.7						
Cel1	7bcefghjk	IRL	PEL_TRAWL	ANF	0.62	9.29	13.95	2.23	4.36	6.71	10.12	0.38	0.22
Cel1	7bcefghjk	IRL	POTS	ANF	0.19	1.75		3.16	1.02	1.07	0.61	0.56	1.41
Cel1	7bcefghjk	IRL	TR1	ANF	461	479.96	777.64	981.95	1075.38	1014.89	1488.06	2100.14	1641.89
Cel1	7bcefghjk	IRL	TR2	ANF	757.84	798.7	973.93	1132.61	1271.53	919.46	723	828.58	841.89
Cel1	7bcefghjk	IRL	TR3	ANF	1.66	0	0	7.41	0	0.27	0.07	3.19	9.74
Cel1	7bcefghjk	NIR	TR1	ANF	0.058							1.032	1.983
Cel1	7bcefghjk	NIR	TR2	ANF		3.916	4.492	2.465	3.228	8.924	17.402	12.486	0.82
Cel1	7bcefghjk	NLD	DREDGE	ANF							11	4	
Cel1	7bcefghjk	NLD	TR2	ANF							0	1	2
Cel1	7bcefghjk	SCO	BT2	ANF							0.6296		
Cel1	7bcefghjk	SCO	DREDGE	ANF	29.7492	20.8567	36.0017	43.5408	25.689	21.0291	29.2282	41.3517	10.6416
Cel1	7bcefghjk	SCO	GN1	ANF	199.9298	120.2526	383.752	293.4583	325.9237	574.7972	672.8116	662.0727	772.6088
Cel1	7bcefghjk	SCO	GT1	ANF	7.6835	1.683							
Cel1	7bcefghjk	SCO	LL1	ANF				0.2711		0.0576			
Cel1	7bcefghjk	SCO	OTTER	ANF			3.3816				0.0166		
Cel1	7bcefghjk	SCO	TR1	ANF	159.7575	279.2608	276.2105	192.229	219.323	338.8924	429.2462	544.1245	591.3381
Cel1	7bcefghjk	SCO	TR2	ANF	28.2342	49.4383	58.6887	91.3399	41.7941	142.5055	105.7967	161.0798	150.9728
Sum					14453.7	16199.69	16246.62	15657.41	17617.77	15363.59	15703.68	11785.37	17355.52

Table 5.6.3.1.2 Haddock landings (t) by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	BEL	BEAM	HAD	0.121		0.157	0.057	0.16		0.174	0.797	1.548
Cel1	7bcefghjk	BEL	BT2	HAD	109.248	129.085	158.561	90.194	98.424	89.725	97.257	123.445	164.368
Cel1	7bcefghjk	BEL	OTTER	HAD	4.041								
Cel1	7bcefghjk	BEL	TR2	HAD		1.693	7.203	8.111	17.643	18.138	34.248	42.307	44.734
Cel1	7bcefghjk	ENG	BEAM	HAD	0.019		0.794	0.071	0.009		0.01	0.052	0.398
Cel1	7bcefghjk	ENG	BT1	HAD		1.075							
Cel1	7bcefghjk	ENG	BT2	HAD	108.07	138.148	116.923	63.397	79.81	72.579	106.4	105.045	183.216
Cel1	7bcefghjk	ENG	DREDGE	HAD		0.001	0.002	0.008	0.001	0.003	0.01	0.003	0.05
Cel1	7bcefghjk	ENG	GN1	HAD	48.843	66.345	69.853	56.025	41.35	37.494	40.594	34.67	52.423
Cel1	7bcefghjk	ENG	GT1	HAD		0.009	0.226	0.41	1.152	0.449	0.082	0.051	0.597
Cel1	7bcefghjk	ENG	LL1	HAD	3.884	5.985	10.702	12.513	6.833	0.32	0	0.002	0.015
Cel1	7bcefghjk	ENG	OTTER	HAD	0.012		0.046		0.243	0.001	0.229	0.183	0.824
Cel1	7bcefghjk	ENG	PEL_SEINE	HAD								2.585	
Cel1	7bcefghjk	ENG	PEL_TRAWL	HAD								0.005	
Cel1	7bcefghjk	ENG	POTS	HAD	0.001		1.017			0.213		0.001	0.036
Cel1	7bcefghjk	ENG	TR1	HAD	74.582	43.489	25.527	32.278	105.448	265.408	273.518	345.022	771.458
Cel1	7bcefghjk	ENG	TR2	HAD	115.33	36.129	47.86	71.174	103.399	116.477	98.702	182.483	191.622
Cel1	7bcefghjk	ENG	TR3	HAD			0.302						
Cel1	7bcefghjk	FRA	BT2	HAD				3.246					
Cel1	7bcefghjk	FRA	DREDGE	HAD			0.002		0.252	0.016	0.016		0.772
Cel1	7bcefghjk	FRA	GN1	HAD	25.784	5.125	12.029	4.478	6.979	3.205	3.205	7.513	6.176
Cel1	7bcefghjk	FRA	GT1	HAD	0.064	0.01	0.045	0.025	0.81	0.037	0.037	2.06	1.168
Cel1	7bcefghjk	FRA	LL1	HAD	3.65	2.684	2.142	1.32	1.027	0.244	0.244	2.4	3.624
Cel1	7bcefghjk	FRA	none	HAD									3.16
Cel1	7bcefghjk	FRA	OTTER	HAD	0.098	3.258	1.009	0.001	0.161			14.3373	9.3587
Cel1	7bcefghjk	FRA	PEL_SEINE	HAD									0.38
Cel1	7bcefghjk	FRA	PEL_TRAWL	HAD				0.224	0.016			0.08	1.445
Cel1	7bcefghjk	FRA	POTS	HAD								0.18	
Cel1	7bcefghjk	FRA	TR1	HAD	2926.505	3721.868	2148.483	1530.511	2110.358	2594.263	2583.607	4504.59	6463.162
Cel1	7bcefghjk	FRA	TR2	HAD	584.152	519.198	384.499	317.941	472.782	501.991	501.861	705.385	900.8327
Cel1	7bcefghjk	FRA	TR3	HAD								6.15	9.69
Cel1	7bcefghjk	GBJ	BEAM	HAD		0.003							
Cel1	7bcefghjk	GBJ	BT2	HAD	5.066	4.612	1.104						
Cel1	7bcefghjk	IRL	BEAM	HAD	15.62	47.37	0.65						
Cel1	7bcefghjk	IRL	BT1	HAD	0.47								
Cel1	7bcefghjk	IRL	BT2	HAD	144.02	137.13	208.32	188.26	166.47	139.88	168.91	170.3	152.63
Cel1	7bcefghjk	IRL	DEM_SEINE	HAD	14.26	33.03	4.81						
Cel1	7bcefghjk	IRL	DREDGE	HAD	0.67	4.11	0.12	0.09					
Cel1	7bcefghjk	IRL	GN1	HAD	67.57	62.65	60.2	41.99	66.59	49.41	58.4	63.48	118.12
Cel1	7bcefghjk	IRL	GT1	HAD				0.01	0.06	0.01	1.07	0.27	0.38
Cel1	7bcefghjk	IRL	LL1	HAD		0.09	2.3				0.08	0.46	0.16
Cel1	7bcefghjk	IRL	none	HAD						0.05			1.18
Cel1	7bcefghjk	IRL	OTTER	HAD	19.56	106.66	4.98	1.33	0.12	0	0.66	0.08	0.8
Cel1	7bcefghjk	IRL	PEL_SEINE	HAD	4.07	42.18	7.1						
Cel1	7bcefghjk	IRL	PEL_TRAWL	HAD	2.08	5.46	2.04	2.47	4.51	0.31	0.45	0.07	8.43
Cel1	7bcefghjk	IRL	POTS	HAD	0.54	1.75	0.28	0.45	0.43	0.04	0.36	0.85	3.28
Cel1	7bcefghjk	IRL	TR1	HAD	357.21	322.45	539.58	641.07	754.96	838.93	1584.33	1409.62	2203.14
Cel1	7bcefghjk	IRL	TR2	HAD	1035.56	951.54	1208.66	977.63	938.46	763.65	1154.57	946.67	820.84
Cel1	7bcefghjk	IRL	TR3	HAD	2.76	0.77	0.72	2.8	3.06	1.63	3.54	2.81	1.2
Cel1	7bcefghjk	NIR	TR1	HAD	4.049					11.578	0.021	41.112	92.499
Cel1	7bcefghjk	NIR	TR2	HAD		2.972	3.969	3.562	0.188	0.655	6.115	7.267	0.675
Cel1	7bcefghjk	NLD	TR2	HAD							1	0	35
Cel1	7bcefghjk	SCO	BT2	HAD							2.9744		
Cel1	7bcefghjk	SCO	DREDGE	HAD			0.0046				0.0017		
Cel1	7bcefghjk	SCO	GN1	HAD		0.1335							
Cel1	7bcefghjk	SCO	LL1	HAD						1.0484			
Cel1	7bcefghjk	SCO	TR1	HAD	5.1569	2.4357	1.0138	4.9778	0.8073	4.1855	144.7077	63.8515	192.3582
Cel1	7bcefghjk	SCO	TR2	HAD	0.8017	2.3925	0.8825	4.3432		1.1843	6.8944	1.5689	61.0729
sum					5683.868	6401.841	5034.116	4060.967	4982.512	5513.124	6874.278	8787.756	12502.82

Table 5.6.3.1.3 Hake landings (t) by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	BEL	BEAM	HKE	0.019	0.6			0.073				0.022
Cel1	7bcefghjk	BEL	BT2	HKE	9.605	13.505	10.559	15.036	9.742	5.166	5.412	8.783	9.788
Cel1	7bcefghjk	BEL	OTTER	HKE	1.166								
Cel1	7bcefghjk	BEL	TR2	HKE		0.356	0.464	2.129	1.467	2.213	1.764	3.152	0.469
Cel1	7bcefghjk	DEU	GN1	HKE								0.284	
Cel1	7bcefghjk	ENG	BEAM	HKE	0.001		0.038	0.014	0.001		0.017	0.018	0.02
Cel1	7bcefghjk	ENG	BT1	HKE		0.12							
Cel1	7bcefghjk	ENG	BT2	HKE	24.353	25.448	18.962	15.869	11.515	16.342	25.854	22.548	18.123
Cel1	7bcefghjk	ENG	DREDGE	HKE	0.001	0.004	0.031	0.01	0.001	0.005	0.005	0.007	0.011
Cel1	7bcefghjk	ENG	GN1	HKE	725.543	555.687	551.782	379.932	223.533	230.43	275.812	208.711	290.179
Cel1	7bcefghjk	ENG	GT1	HKE			0.108	3.819	2.594	2.354	0.146	0.163	0.361
Cel1	7bcefghjk	ENG	LL1	HKE	37.198	23.032	4.585	36.032	500.48	150.276	0.002		
Cel1	7bcefghjk	ENG	OTTER	HKE	0.01	0.006	0.216	0	0.011		0.037	9.794	0.004
Cel1	7bcefghjk	ENG	PEL_SEINE	HKE								0.012	
Cel1	7bcefghjk	ENG	PEL_TRAWL	HKE							1.029	16.294	131.798
Cel1	7bcefghjk	ENG	POTS	HKE	0.09				0.003	0.001			
Cel1	7bcefghjk	ENG	TR1	HKE	500.16	519.096	454.899	526.293	560.797	316.313	371.485	330.984	551.282
Cel1	7bcefghjk	ENG	TR2	HKE	61.182	38.249	50.393	28.712	43.707	27.772	33.059	17.219	9.823
Cel1	7bcefghjk	ENG	TR3	HKE			0.038				0.001		
Cel1	7bcefghjk	FRA	BT2	HKE				0.19					
Cel1	7bcefghjk	FRA	DREDGE	HKE	0.004	0.001			0.153	0.023	0.023	2.906	1.127
Cel1	7bcefghjk	FRA	GN1	HKE	911.123	1195.885	1122.62	959.959	785.821	480.665	480.665	3027.439	5237.305
Cel1	7bcefghjk	FRA	GT1	HKE	5.093	2.732	5.352	3.1	2.974	2.076	2.076	2.5112	2.9629
Cel1	7bcefghjk	FRA	LL1	HKE	0.499	0.813	24.829	213.576	352.977	278.113	278.113	584.36	605.747
Cel1	7bcefghjk	FRA	none	HKE					0.292				22.921
Cel1	7bcefghjk	FRA	OTTER	HKE	0.516	0.993	2.994	0.034	0.04			8.86	3.62766
Cel1	7bcefghjk	FRA	PEL_SEINE	HKE	3.047					0.044	0.044		
Cel1	7bcefghjk	FRA	PEL_TRAWL	HKE	0.402	0.02	0.297	0.699	0.199	0.001	0.001	1.23	9.009
Cel1	7bcefghjk	FRA	POTS	HKE				0.028				1.16	0.655
Cel1	7bcefghjk	FRA	TR1	HKE	370.203	463.253	496.439	345.446	311.802	255.655	252.708	873.332	1046.781
Cel1	7bcefghjk	FRA	TR2	HKE	265.004	224.656	295.021	157.625	132.079	126.708	126.577	215.048	184.0246
Cel1	7bcefghjk	FRA	TR3	HKE								0.3173	4.164
Cel1	7bcefghjk	GBJ	BT2	HKE	0.915	1.014	0.492						
Cel1	7bcefghjk	GBJ	TR2	HKE	0.004								0.164
Cel1	7bcefghjk	IRL	BEAM	HKE	7.63	14.02							
Cel1	7bcefghjk	IRL	BT1	HKE	0.11								
Cel1	7bcefghjk	IRL	BT2	HKE	76.65	41.71	47.19	47.03	49.23	25.24	22.78	39.52	33.73
Cel1	7bcefghjk	IRL	DEM_SEINE	HKE	5.46	13.25	0.78						
Cel1	7bcefghjk	IRL	DREDGE	HKE	0.24	0.66							0
Cel1	7bcefghjk	IRL	GN1	HKE	206.53	205.59	219.56	236.2	373.29	437.14	683.31	543.74	560.53
Cel1	7bcefghjk	IRL	GT1	HKE				0	0.02	0.01	0.06	7.03	0.98
Cel1	7bcefghjk	IRL	LL1	HKE	0.02		1.38				1.05		
Cel1	7bcefghjk	IRL	none	HKE			1.78						1.02
Cel1	7bcefghjk	IRL	OTTER	HKE	6.3	33.96	1.19	0	0	0	0	0	0.9
Cel1	7bcefghjk	IRL	PEL_SEINE	HKE	1.92	4.91	0.48						
Cel1	7bcefghjk	IRL	PEL_TRAWL	HKE	2.84	3.34	1.05	0.27	0.78	0.21	1.49	1.38	1.61
Cel1	7bcefghjk	IRL	POTS	HKE	0.6	0.34	0.08	0	0.27	0.01	0.03	0.14	1.72
Cel1	7bcefghjk	IRL	TR1	HKE	382.81	328.31	410.94	450.56	535.5	496.8	390.01	719.13	822.51
Cel1	7bcefghjk	IRL	TR2	HKE	232.76	269.19	220.65	232.02	229.46	194.18	138.02	211.64	195.1
Cel1	7bcefghjk	IRL	TR3	HKE	0.02	0.27	0	0.45	0	0	0.01	0.41	2.39
Cel1	7bcefghjk	NIR	TR1	HKE	0.761			0.008			0.056	5.317	12.011
Cel1	7bcefghjk	NIR	TR2	HKE		1.795	1.335	0.379	0.153	0.559	0.65	1.796	0.01
Cel1	7bcefghjk	NLD	PEL_TRAWL	HKE							13	101	377
Cel1	7bcefghjk	NLD	TR2	HKE							0	1	0
Cel1	7bcefghjk	SCO	BT2	HKE							0.033		
Cel1	7bcefghjk	SCO	DREDGE	HKE			0.0078	0.0021			0.002		
Cel1	7bcefghjk	SCO	GN1	HKE	148.1286	152.6569	14.77	2.4802	0.1914	1.2626	251.5474	88.2136	0.1188
Cel1	7bcefghjk	SCO	LL1	HKE	7.8145	0.7975	37.6718	277.2723	226.5466	959.7347	252.7847	247.5625	114.3202
Cel1	7bcefghjk	SCO	OTTER	HKE			3.4624				0.003		
Cel1	7bcefghjk	SCO	TR1	HKE	257.5786	246.7384	421.6939	300.5239	226.265	211.933	223.3222	195.1496	111.4886
Cel1	7bcefghjk	SCO	TR2	HKE	16.8076	22.9038	26.1396	40.0456	16.7251	40.9549	33.8603	36.2376	20.4441
Sum					4271.118	4405.912	4450.279	4275.744	4598.692	4262.191	3866.849	7534.399	10386.25

Table 5.6.3.1.4 Nephrops landings (t) by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	BEL	BEAM	NEP	0.01	0.05						0.055	
Cel1	7bcefghjk	BEL	BT2	NEP	0.12	0.572	1.076	0.721	1.46	0.388	2.645	4.285	4.349
Cel1	7bcefghjk	BEL	TR2	NEP		11.836	5.418	6.491	4.791	8.688	12.278	10.934	3.084
Cel1	7bcefghjk	ENG	BEAM	NEP			0.016						
Cel1	7bcefghjk	ENG	BT2	NEP	4.661	3.908	4.866	2.735	0.29	0.599	2.894	1.085	2.002
Cel1	7bcefghjk	ENG	GN1	NEP					0.003			0.014	
Cel1	7bcefghjk	ENG	GT1	NEP								0.002	
Cel1	7bcefghjk	ENG	POTS	NEP			0.081	0.069				0.002	
Cel1	7bcefghjk	ENG	TR1	NEP	102.376	111.307	181.931	171.328	131.329	42.978	28.629	20.962	28.899
Cel1	7bcefghjk	ENG	TR2	NEP	10.161	5.049	3.1	39.212	13.198	9.772	13.812	44.437	0.024
Cel1	7bcefghjk	FRA	GN1	NEP		0.435	0.481	0.008	0.493	0.022	0.022	0.3859	0.3679
Cel1	7bcefghjk	FRA	GT1	NEP	0.005		0.185	0.305	0.443	0.18	0.18	2.0994	0.47015
Cel1	7bcefghjk	FRA	LL1	NEP								0.14	0.1532
Cel1	7bcefghjk	FRA	none	NEP		0.003							0.031
Cel1	7bcefghjk	FRA	OTTER	NEP			1.183					2.93	0.315
Cel1	7bcefghjk	FRA	PEL_TRAWL	NEP			2.081	0.95					
Cel1	7bcefghjk	FRA	POTS	NEP								0.09	0.131
Cel1	7bcefghjk	FRA	TR1	NEP	705.854	592.193	659.89	427.422	282.523	295.75	295.75	826.8	489.9624
Cel1	7bcefghjk	FRA	TR2	NEP	147.881	41.307	76.376	26.136	20.807	20.817	20.792	13.77	23.821
Cel1	7bcefghjk	FRA	TR3	NEP								0.19	0.145
Cel1	7bcefghjk	IRL	BEAM	NEP	2.4	49.03	6.42						
Cel1	7bcefghjk	IRL	BT1	NEP	0.2								
Cel1	7bcefghjk	IRL	BT2	NEP	73.47	90.9	98.56	89.19	85.73	34.23	27.8	17.25	17.5
Cel1	7bcefghjk	IRL	DREDGE	NEP		4.13							
Cel1	7bcefghjk	IRL	GN1	NEP	0.7	16.18	14.52	5.05		4	2.31	0.09	0.05
Cel1	7bcefghjk	IRL	GT1	NEP	0.74								1.69
Cel1	7bcefghjk	IRL	LL1	NEP	0.87							0.22	
Cel1	7bcefghjk	IRL	none	NEP			5.08			0.03			6.55
Cel1	7bcefghjk	IRL	OTTER	NEP	57.4	259.82	12.39	12.73	1.44	0.1	0.32		
Cel1	7bcefghjk	IRL	PEL_SEINE	NEP	7.59	2.6	0.08						
Cel1	7bcefghjk	IRL	PEL_TRAWL	NEP	3.88	49.48	35.52	1.61	8.77	2.1		2.29	4.61
Cel1	7bcefghjk	IRL	POTS	NEP	3.62	10.35	3.8		3.02	4.45	6.94	10.09	8.36
Cel1	7bcefghjk	IRL	TR1	NEP	438.31	536.04	761.08	727.6	990.33	1319.37	1542.63	1063.14	1129.62
Cel1	7bcefghjk	IRL	TR2	NEP	3215.08	2625.31	3800.2	3173.73	5027.62	4542.47	3105.83	3990.35	3009.99
Cel1	7bcefghjk	IRL	TR3	NEP	9.26			2.06				1.15	
Cel1	7bcefghjk	NIR	TR1	NEP			0.608						
Cel1	7bcefghjk	NIR	TR2	NEP		34.58	65.012	58.484	46.887	345.345	310.42	328.044	7.586
Cel1	7bcefghjk	SCO	GN1	NEP			0.014						
Cel1	7bcefghjk	SCO	TR1	NEP	37.5838	34.5194	84.9729	60.2925	37.197	81.4026	45.5847	71.2688	45.4805
Cel1	7bcefghjk	SCO	TR2	NEP	17.7385	23.5938	121.5133	135.4662	168.5533	102.6871	134.3303	75.7747	131.7718
Sum					4839.91	4503.193	5946.454	4941.59	6824.884	6815.379	5553.167	6487.849	4916.963

Table 5.6.3.1.5 Plaice landings (t) by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	BEL	BEAM	PLE	0.149	5.966	1.653	0.322	0.727		1.606	0.405	1.068
Cel1	7bcefghjk	BEL	BT1	PLE						22.773			
Cel1	7bcefghjk	BEL	BT2	PLE	264.672	303.689	209.683	189.647	227.791	172.734	190.624	175.545	292.816
Cel1	7bcefghjk	BEL	DREDGE	PLE							0.177		
Cel1	7bcefghjk	BEL	OTTER	PLE	5.456								
Cel1	7bcefghjk	BEL	TR2	PLE		6.188	35.054	54.046	54.71	79.742	79.736	62.428	58.25
Cel1	7bcefghjk	ENG	BEAM	PLE	0.79	1.177	1.867	1.321	1.667	0.201	0.033	0.457	0.687
Cel1	7bcefghjk	ENG	BT1	PLE		0.341							
Cel1	7bcefghjk	ENG	BT2	PLE	875.248	757.32	753.854	730.124	524.084	509.727	579.729	608.543	629.781
Cel1	7bcefghjk	ENG	DREDGE	PLE	3.078	5.706	9.803	6.059	2.392	1.581	2.165	3.475	6.824
Cel1	7bcefghjk	ENG	GN1	PLE	0.971	2.526	1.446	1.548	1.271	1.052	3.958	3.998	3.907
Cel1	7bcefghjk	ENG	GT1	PLE		0.005	0.081	0.078	0.12	0.165	0.015	0.103	0.14
Cel1	7bcefghjk	ENG	LL1	PLE	0.043	0.039	0.001	0.008	0.071	0.089	0.024	0.063	0.105
Cel1	7bcefghjk	ENG	OTTER	PLE	0.387	0.094	0.612	0.248	0.533	0.168	0.426	0.797	0.211
Cel1	7bcefghjk	ENG	PEL_SEINE	PLE								0.053	
Cel1	7bcefghjk	ENG	PEL_TRAWL	PLE	0.025		0.021		0.01	0.003	0.019	0.004	0.005
Cel1	7bcefghjk	ENG	POTS	PLE	0.033	0.001	0.001	0.082	0.037	0.064	0.006	0.05	0.008
Cel1	7bcefghjk	ENG	TR1	PLE	13.057	10.469	5.013	2.544	3.301	6.439	14.203	21.692	65.901
Cel1	7bcefghjk	ENG	TR2	PLE	148.741	136.433	131.577	185.253	123.196	132.603	128.76	200.382	207.982
Cel1	7bcefghjk	ENG	TR3	PLE	0.034		0.255				0.021	0.027	
Cel1	7bcefghjk	FRA	BEAM	PLE	0.138	0.17	2.043	0.022				0.34	0.045
Cel1	7bcefghjk	FRA	BT2	PLE	1.733	34.04	14.075	6.08	5.19	5.244	5.134	26.295	25.507
Cel1	7bcefghjk	FRA	DREDGE	PLE	4.178	3.374	4.026	3.407	5.103	5.284	5.278	1.21	2.0498
Cel1	7bcefghjk	FRA	GN1	PLE	3.044	5.665	6.343	2.089	0.828	1.131	1.131	0.546	1.585
Cel1	7bcefghjk	FRA	GT1	PLE	9.335	16.117	22.067	12.325	7.549	3.202	3.202	7.164	8.9028
Cel1	7bcefghjk	FRA	LL1	PLE	0.045	0.001	0.014	0.066	0.004	0.006	0.006	0.0031	0.0209
Cel1	7bcefghjk	FRA	none	PLE	0.313	0.614	0.385		0.02	0.007	0.007		0.033
Cel1	7bcefghjk	FRA	OTTER	PLE	4.56	4.569	12.95	3.446	2.279	0.617	0.595	3.107	1.924
Cel1	7bcefghjk	FRA	PEL_SEINE	PLE	0.008				0.022				
Cel1	7bcefghjk	FRA	PEL_TRAWL	PLE	0.022	0.012	0.081	0.109	0.069	0.046	0.046	0.753	1.831
Cel1	7bcefghjk	FRA	POTS	PLE	0.002		0.01		0.114			0.14	0.342
Cel1	7bcefghjk	FRA	TR1	PLE	141.514	112.51	76.909	74.62	63.791	88.882	88.42799	125.246	119.0644
Cel1	7bcefghjk	FRA	TR2	PLE	139.901	120.605	127.629	132.557	138.818	131.548	131.12	105.958	129.7299
Cel1	7bcefghjk	FRA	TR3	PLE	0.038	0.032		0.098	0.002			0.56	1.4827
Cel1	7bcefghjk	GBG	TR2	PLE						0.008	0.001	0.08	0.077
Cel1	7bcefghjk	GBJ	BEAM	PLE		0.2							
Cel1	7bcefghjk	GBJ	BT2	PLE	27.602	43.216	9.946						
Cel1	7bcefghjk	GBJ	TR2	PLE	0.011		0.019	0.575	0.468	0.123	0.12	0.226	0.44
Cel1	7bcefghjk	IRL	BEAM	PLE	0.69	1.79							
Cel1	7bcefghjk	IRL	BT2	PLE	17.51	10.47	13.1	19.39	26.79	15.54	9.95	7.77	7.5
Cel1	7bcefghjk	IRL	DEM_SEINE	PLE	0.85	0.57	0.02						
Cel1	7bcefghjk	IRL	DREDGE	PLE	0.39	0.5	0.46	0.04	0.03				0
Cel1	7bcefghjk	IRL	GN1	PLE	0.28	0.72	0.27	0.35	0.57	0.9	1.81	1.93	2.1
Cel1	7bcefghjk	IRL	GT1	PLE	0.02			0	0.12	0	0.05	0.16	0.32
Cel1	7bcefghjk	IRL	none	PLE						0.02			
Cel1	7bcefghjk	IRL	OTTER	PLE	4.12	10.63	0.58	0	0.01	0	0	0.07	0
Cel1	7bcefghjk	IRL	PEL_SEINE	PLE	0.1	1.26							
Cel1	7bcefghjk	IRL	PEL_TRAWL	PLE		0.25	0.04	0.06				0.13	0.32
Cel1	7bcefghjk	IRL	POTS	PLE	0.05	0.08		0.15	0.25	2.98	12.52	1.77	0.68
Cel1	7bcefghjk	IRL	TR1	PLE	36.38	21.64	21.4	16.04	29.26	42.92	57.22	64.49	85.16
Cel1	7bcefghjk	IRL	TR2	PLE	169.28	125.29	123.4	96.36	95.05	92.79	90.96	76.75	58.29
Cel1	7bcefghjk	IRL	TR3	PLE	0.26	0.21	0.08	1.25	1.6	0.53	4.49	0.68	0.13
Cel1	7bcefghjk	NIR	TR1	PLE	0.164								0.001
Cel1	7bcefghjk	NIR	TR2	PLE		0.586	0.217	0.496		0.213	0.863	0.716	0.034
Cel1	7bcefghjk	NLD	BT2	PLE								2	
Cel1	7bcefghjk	NLD	LL1	PLE							0		
Cel1	7bcefghjk	NLD	TR1	PLE									0
Cel1	7bcefghjk	NLD	TR2	PLE							2	1	3
Cel1	7bcefghjk	SCO	BT2	PLE					0.0963		0.0452		
Cel1	7bcefghjk	SCO	DREDGE	PLE	0.0126	0.0438	0.1206	0.2093	0.0362	1.0366	0.866	0.2669	0.0139
Cel1	7bcefghjk	SCO	OTTER	PLE							0.0349		
Cel1	7bcefghjk	SCO	TR1	PLE	0.6758				0.4334		3.1205	0.5482	6.0717
Cel1	7bcefghjk	SCO	TR2	PLE		0.5287		0.2783	0.1288	0.0267	0.8732	1.0232	1.9894
Sum					1875.91	1745.647	1587.106	1541.298	1318.542	1320.395	1421.373	1508.954	1726.329

Table 5.6.3.1.6 Sole landings (t) by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	BEL	BEAM	SOL	11.75	1.334	2.138	5.351	21.223	2.563	5.186	12.156	4.709
Cel1	7bcefghjk	BEL	BT2	SOL	845.563	856.256	733.225	590.316	570.521	443.383	458.939	561.876	718.126
Cel1	7bcefghjk	BEL	DREDGE	SOL						0.086	0.96	0.797	0.342
Cel1	7bcefghjk	BEL	OTTER	SOL	0.649								
Cel1	7bcefghjk	BEL	TR2	SOL		15.101	21.575	44.565	46.384	50.121	78.46	80.27	81.749
Cel1	7bcefghjk	ENG	BEAM	SOL	2.139	0.104	2.245	1.044	0.323	0.396	0.516	0.287	0.468
Cel1	7bcefghjk	ENG	BT1	SOL		0.604							
Cel1	7bcefghjk	ENG	BT2	SOL	516.33	415.716	696.347	732.869	729.899	635.432	528.726	501.243	543.707
Cel1	7bcefghjk	ENG	DREDGE	SOL	6.57	6.831	16.786	16.918	15.752	10.213	9.498	19.111	22.94
Cel1	7bcefghjk	ENG	GN1	SOL	1.749	2.097	2.291	1.908	6.033	6.998	10.475	4.338	5.815
Cel1	7bcefghjk	ENG	GT1	SOL		0.014	0.058	0.022	0.047	0.05	0.002	0.004	
Cel1	7bcefghjk	ENG	LL1	SOL	0.005	0.005	0.004	0	0.006	0.03	0.004	0.004	0.002
Cel1	7bcefghjk	ENG	OTTER	SOL	0.073	0.007	0.179	0.028	0.091	0.032	0.139	0.056	0.074
Cel1	7bcefghjk	ENG	PEL_SEINE	SOL								0.003	
Cel1	7bcefghjk	ENG	PEL_TRAWL	SOL		0		0.001		0.003			
Cel1	7bcefghjk	ENG	POTS	SOL	0.022	0.004	0.001	0.043	0.157	0.099	0.018		0.011
Cel1	7bcefghjk	ENG	TR1	SOL	4.184	3.008	3.097	0.94	1.248	4.01	5.571	8.778	9.637
Cel1	7bcefghjk	ENG	TR2	SOL	22.184	22.818	33.967	45.305	39.947	34.615	25.274	24.232	24.762
Cel1	7bcefghjk	ENG	TR3	SOL			0.096			0.001	0.012		
Cel1	7bcefghjk	FRA	BEAM	SOL	0.36	0.74	11.249	0.29				0.67	0.245
Cel1	7bcefghjk	FRA	BT2	SOL	6.017	43.071	32.089	30.695	32.739	33.296	31.846	63.28	62.192
Cel1	7bcefghjk	FRA	DREDGE	SOL	11.798	9.48	10.45	6.765	12.108	19.444	19.331	3.147	6.0846
Cel1	7bcefghjk	FRA	GN1	SOL	10.938	21.021	15.151	4.435	6.146	8.258	8.258	6.0796	8.3322
Cel1	7bcefghjk	FRA	GT1	SOL	39.403	43.097	77.496	40.786	47.242	33.445	33.445	24.2835	55.4362
Cel1	7bcefghjk	FRA	LL1	SOL	0.008	0.006	0.017	0.148	0.022	0.005	0.005	0.029	0.177
Cel1	7bcefghjk	FRA	none	SOL	1.841	2.234	3.999	3.793	0.046	0.057	0.057		0.055
Cel1	7bcefghjk	FRA	OTTER	SOL	16.075	12.092	39.663	14.883	12.406	3.558	3.558	6.2615	5.261
Cel1	7bcefghjk	FRA	PEL_TRAWL	SOL	0.119	0.377	0.249	0.295	0.081	0.206	0.206	0.928	1.834
Cel1	7bcefghjk	FRA	POTS	SOL	0.244	0.442	2.7	0.206	1.078	0.002	0.002	10.45	4.697
Cel1	7bcefghjk	FRA	TR1	SOL	104.063	72.748	62.076	62.621	57.529	56.207	56.19499	62.455	79.14207
Cel1	7bcefghjk	FRA	TR2	SOL	238.117	171.595	211.161	216.443	222.952	179.952	178.252	152.449	175.4369
Cel1	7bcefghjk	FRA	TR3	SOL	0.322	0.17		0.23	0.056	0.041	0.041	1	1.35
Cel1	7bcefghjk	GBG	TR2	SOL						0.013	0.001	0.128	0.062
Cel1	7bcefghjk	GBJ	BEAM	SOL		0.088							
Cel1	7bcefghjk	GBJ	BT2	SOL	68.489	57.523	43.182						
Cel1	7bcefghjk	GBJ	TR2	SOL	0.056			0.453	0.3	0.235	0.173	0.235	
Cel1	7bcefghjk	IOM	DREDGE	SOL					0.012				
Cel1	7bcefghjk	IRL	BEAM	SOL	1.5	6.42	0.04						
Cel1	7bcefghjk	IRL	BT1	SOL	0.04								
Cel1	7bcefghjk	IRL	BT2	SOL	38.39	40.13	45.49	38.83	21.37	16.42	12.84	11.25	7.38
Cel1	7bcefghjk	IRL	DEM_SEINE	SOL			0.11						
Cel1	7bcefghjk	IRL	DREDGE	SOL	1.32	0.92	1.12	0.05	0.08				
Cel1	7bcefghjk	IRL	GN1	SOL	0.82	0.67	0.09	1.46	0.3	0.37	1.14	1.04	0.36
Cel1	7bcefghjk	IRL	GT1	SOL				0.03	0.08			0.04	0.38
Cel1	7bcefghjk	IRL	LL1	SOL	0.04								
Cel1	7bcefghjk	IRL	none	SOL						0.06			0.16
Cel1	7bcefghjk	IRL	OTTER	SOL	3.13	16.36	1.74	0.07	0.04		0.04		
Cel1	7bcefghjk	IRL	PEL_SEINE	SOL		0.79							
Cel1	7bcefghjk	IRL	PEL_TRAWL	SOL		0.62	0.06	0.29	0.12			0.17	
Cel1	7bcefghjk	IRL	POTS	SOL		0.05		0.08	0.02	0.01		0.24	
Cel1	7bcefghjk	IRL	TR1	SOL	18.86	16.51	21.34	10.45	14.35	21.31	16.83	31.64	37.86
Cel1	7bcefghjk	IRL	TR2	SOL	112.5	109.47	99.68	82.3	106.74	93.52	98.68	85.38	68.82
Cel1	7bcefghjk	IRL	TR3	SOL	0.35	0.08		0.08	0.01	0.03	1.42	0.41	0.21
Cel1	7bcefghjk	NIR	TR1	SOL									0.004
Cel1	7bcefghjk	NIR	TR2	SOL		0.593	0.616	0.285	0.151	1.11	1.871	1.67	0.058
Cel1	7bcefghjk	NLD	BT2	SOL								1	
Cel1	7bcefghjk	SCO	DREDGE	SOL	0.6645	1.119	2.8552	4.4666	3.834	9.0508	2.0135	0.9616	0.4283
Cel1	7bcefghjk	SCO	OTTER	SOL							0.0014		
Cel1	7bcefghjk	SCO	TR1	SOL	0.0003	0.05					1.1964	0.5309	2.0866
Cel1	7bcefghjk	SCO	TR2	SOL	0.1623	0.1505					0.0105	0.0003	0.1036
Sum					2086.845	1952.516	2194.632	1959.745	1971.443	1664.632	1591.193	1678.883	1930.497

Table 5.6.3.1.7 (t) Whiting landings by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	BEL	BEAM	WHG	0.122	0.602	0.129	0.393	0.244		0.073		0.035
Cel1	7bcefghjk	BEL	BT2	WHG	115.541	139.545	180.594	57.864	71.047	75.203	42.184	66.059	68.715
Cel1	7bcefghjk	BEL	OTTER	WHG	8.389								
Cel1	7bcefghjk	BEL	TR2	WHG		35.829	36.866	69.696	54.817	44.728	45.048	34.376	30.505
Cel1	7bcefghjk	ENG	BEAM	WHG	0.074	0.004	0.085	0.13	0.207		0.022	0.072	0.164
Cel1	7bcefghjk	ENG	BT1	WHG		0.019							
Cel1	7bcefghjk	ENG	BT2	WHG	95.887	72.66	66.993	49.449	52.117	58.583	46.796	40.276	41.46
Cel1	7bcefghjk	ENG	DREDGE	WHG	0.019	0.018	0.004	0.023	0.032	0	0.014		0.055
Cel1	7bcefghjk	ENG	GN1	WHG	22.724	18.99	25.149	23.321	15.319	8.072	5.789	6.193	20.376
Cel1	7bcefghjk	ENG	GT1	WHG	0.001	0.126	0.162	0.325	0.29	0.101	0.073	0.02	0.209
Cel1	7bcefghjk	ENG	LL1	WHG	1.689	3.131	1.276	1.999	0.823	0.254	0.007	1.513	1.529
Cel1	7bcefghjk	ENG	OTTER	WHG	0.103	0.734	0.117	0.159	1.345	0.164	1.371	0.865	0.172
Cel1	7bcefghjk	ENG	PEL_SEINE	WHG								0.681	
Cel1	7bcefghjk	ENG	PEL_TRAWL	WHG	6.552	3.805	1.985	3.432	4.157	9.706	3.961	12.237	13.65
Cel1	7bcefghjk	ENG	POTS	WHG	0.051	0.106	0.003	0.014	0.015	0.007	0.002		0.004
Cel1	7bcefghjk	ENG	TR1	WHG	74.368	40.664	52.076	23.33	26.198	42.817	80.752	106.116	176.663
Cel1	7bcefghjk	ENG	TR2	WHG	450.785	337.564	268.205	210.906	337.838	344.46	466.976	392.064	248.846
Cel1	7bcefghjk	ENG	TR3	WHG	0.351	0.03	0.226		0.054	0.001	1.512	0.749	
Cel1	7bcefghjk	FRA	BT2	WHG		0.015		0.665	0.019	0.003	0.003	0.001	0.025
Cel1	7bcefghjk	FRA	DREDGE	WHG	1.834	3.209	2.13	1.914	7.12	3.09	3.087	0.64	2.636
Cel1	7bcefghjk	FRA	GN1	WHG	15.598	5.112	7.595	3.383	2.688	4.468	4.468	8.586	0.396
Cel1	7bcefghjk	FRA	GT1	WHG	1.459	0.062	1.088	0.625	3.869	0.287	0.287	2.39	5.54
Cel1	7bcefghjk	FRA	LL1	WHG	0.52	2.192	3.526	8.959	6.452	1.164	1.164	1.541	6.356
Cel1	7bcefghjk	FRA	none	WHG	0.007	0.02	0.015			0.053	0.053		0.509
Cel1	7bcefghjk	FRA	OTTER	WHG	3.063	20.238	14.246	2.58	2.281	0.525	0.525	8.093	5.9724
Cel1	7bcefghjk	FRA	PEL_TRAWL	WHG	7.841	2.523	0.141	1.701	1.011	1.624	1.624	2.615	12.424
Cel1	7bcefghjk	FRA	POTS	WHG				0.001		1.371	1.371	12.87	28.08
Cel1	7bcefghjk	FRA	TR1	WHG	3493.677	3078.445	4025.512	3032.151	2007.227	1327.353	1320.829	1731.81	2243.936
Cel1	7bcefghjk	FRA	TR2	WHG	1391.58	1137.358	1528.415	1006.229	1037.402	1076.409	1075.558	936.476	989.3073
Cel1	7bcefghjk	FRA	TR3	WHG		0.001		0.004				1.64	7.664
Cel1	7bcefghjk	GBG	PEL_TRAWL	WHG							0.003		
Cel1	7bcefghjk	GBG	TR2	WHG						0.004	0.008	0.008	0.005
Cel1	7bcefghjk	GBJ	BEAM	WHG		0.005							
Cel1	7bcefghjk	GBJ	BT2	WHG	2.341	4.506	1.685						
Cel1	7bcefghjk	GBJ	TR2	WHG	0.006			0.144	0.305	0.067	0.046	0.177	0.131
Cel1	7bcefghjk	IRL	BEAM	WHG	7.15	8.24							
Cel1	7bcefghjk	IRL	BT1	WHG	0.21								
Cel1	7bcefghjk	IRL	BT2	WHG	62.21	35.12	30.08	22.26	24.24	4.01	2.87	4.5	15.12
Cel1	7bcefghjk	IRL	DEM_SEINE	WHG	40.5	54.4	9.56						
Cel1	7bcefghjk	IRL	DREDGE	WHG	0.56	2.16	0.47	0.09	0.12				
Cel1	7bcefghjk	IRL	GN1	WHG	96.9	107.67	60.45	16.07	19.22	23.55	20.43	22.28	35.19
Cel1	7bcefghjk	IRL	GT1	WHG				0	0.06		0.02	0.08	0.19
Cel1	7bcefghjk	IRL	LL1	WHG			0.25						0.16
Cel1	7bcefghjk	IRL	none	WHG			4.77						
Cel1	7bcefghjk	IRL	OTTER	WHG	26.23	414.99	2.34	0.3	0	0	0.44	0.64	0
Cel1	7bcefghjk	IRL	PEL_SEINE	WHG	53.27	79.09	8.68						
Cel1	7bcefghjk	IRL	PEL_TRAWL	WHG	75.45	43.05	0.04	13.25	0.35		0.05		10.08
Cel1	7bcefghjk	IRL	POTS	WHG	1.1	2.04	0.31		0.3		0.28	0.03	1.15
Cel1	7bcefghjk	IRL	TR1	WHG	1179.75	885.29	1013.57	1121.76	1188.42	1166.76	1705.47	2448.38	3156.71
Cel1	7bcefghjk	IRL	TR2	WHG	2747.42	2641.98	4617.16	3333.13	3657.24	1208.32	1065.02	1838.34	1524.73
Cel1	7bcefghjk	IRL	TR3	WHG	0.24	0.39	0.28	0.6	0.19	0.05	0.6	0.64	0.26
Cel1	7bcefghjk	NIR	TR1	WHG	6.478			13.3		0.2		29.061	24.51
Cel1	7bcefghjk	NIR	TR2	WHG		15.628	10.263	8.599	0.685	10.019	11.242	16.655	1.13
Cel1	7bcefghjk	NLD	LL1	WHG							0		
Cel1	7bcefghjk	NLD	PEL_TRAWL	WHG								795	0
Cel1	7bcefghjk	NLD	TR1	WHG								3	
Cel1	7bcefghjk	NLD	TR2	WHG							24	73	152
Cel1	7bcefghjk	SCO	BT2	WHG					1.2204		0.2445		
Cel1	7bcefghjk	SCO	DREDGE	WHG			0.0013				0.002		
Cel1	7bcefghjk	SCO	GN1	WHG		0.0792							
Cel1	7bcefghjk	SCO	LL1	WHG						0.5975			
Cel1	7bcefghjk	SCO	OTTER	WHG	0.0832						0.0135		
Cel1	7bcefghjk	SCO	PEL_TRAWL	WHG	0.0595	5.8561							0.1648
Cel1	7bcefghjk	SCO	TR1	WHG	2.2722	4.5502		0.2372	0.096	4.4564	45.5316	21.2963	28.5048
Cel1	7bcefghjk	SCO	TR2	WHG	2.3721	9.8849	0.0506	5.7703	3.1764	2.1775	13.518	13.0607	58.7021
Cel1	7bcefghjk	SCO	TR3	WHG		0.0401							
sum					9996.837	9217.972	11976.5	9034.764	8528.195	5420.654	5993.338	8634.031	8913.966

Main species caught in this area per gear categories were identified summing the landings per year and gear categories. The main species were defined as species representing more than 2% of the total landings on average over the period 2003-2011.

The following figure represents trends from 2003 to 2011 of main species and the other species (all species grouped).

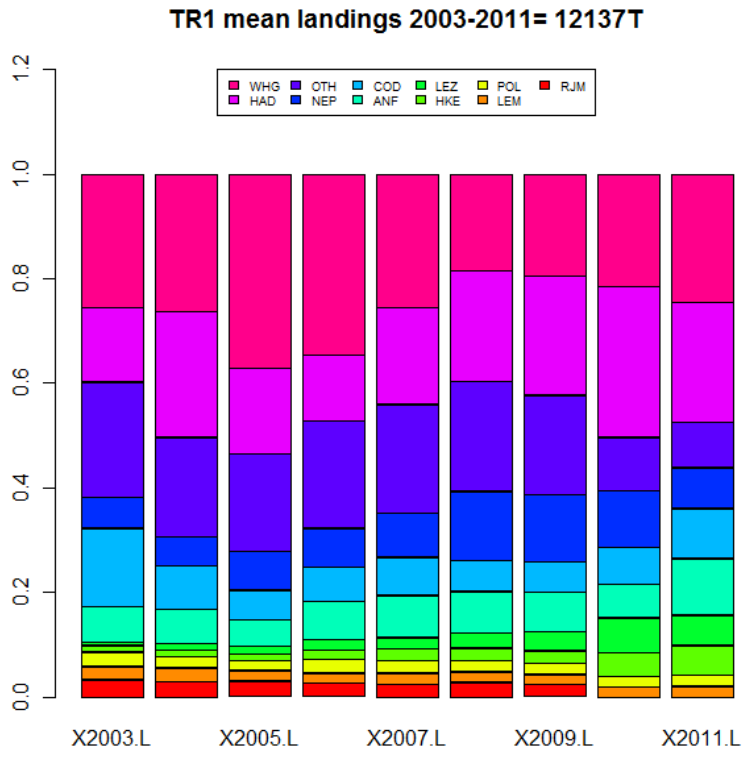


Figure 5.6.3.1.1 relative percentage (in volume, not taking into account the discards) of each species in the total catches for TR1, 2003-2011.

The main species caught by TR1 in sub-division 7fg are whiting, haddock, Nephrops, cod, anglerfish, megrim, hake, pollock and lemon sole.

Trends are quite stable and mainly driven by Whiting and Haddock.

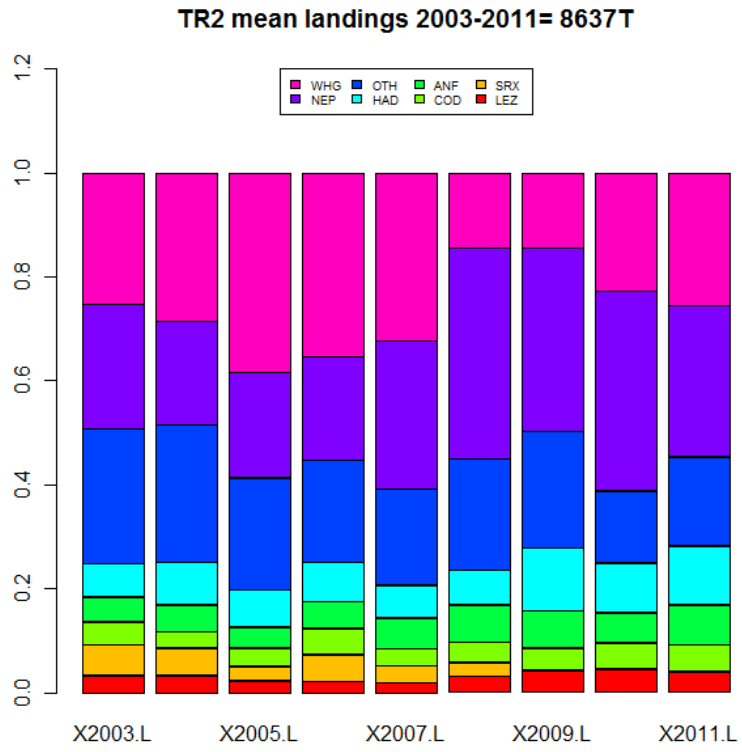


Figure 5.6.3.1.2 relative percentage (in volume, not taking into account the discards) of each species in the total catches for TR2, 2003-2011.

The main species caught by TR2 in sub-division 7fg are whiting, Nephrops, haddock, anglerfish, cod and megrim.

Trends are quite stable and mainly driven by whiting and Nephrops.

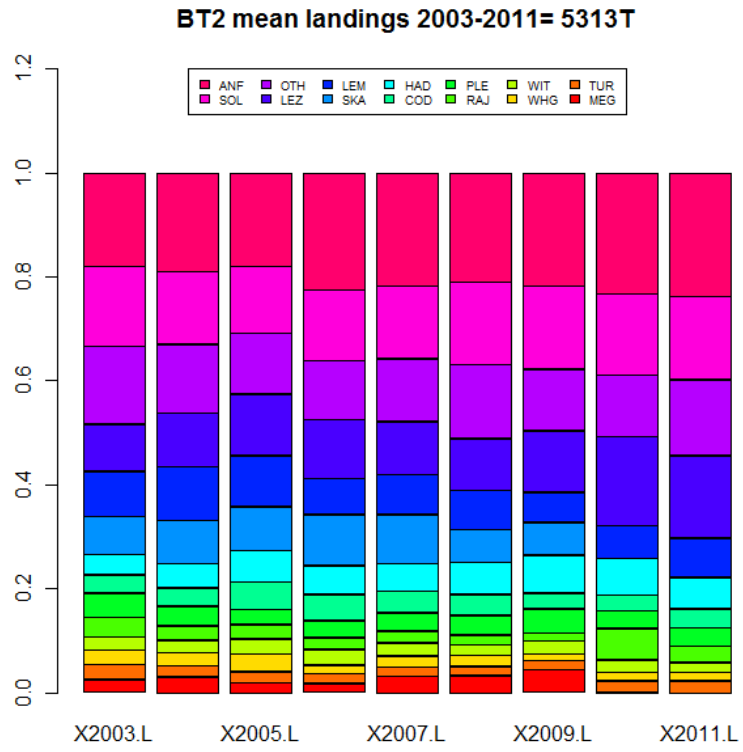


Figure 5.6.3.1.3 relative percentage (in volume, not taking into account the discards) of each species in the total catches for BT2, 2003-2011.

The main species caught by BT2 in sub-division 7fg are anglerfish, sole, megrim, lemon sole, rays, haddock, cod, llaice, whiting and turbot

Trends are quite stable and mainly driven by anglerfish and sole.

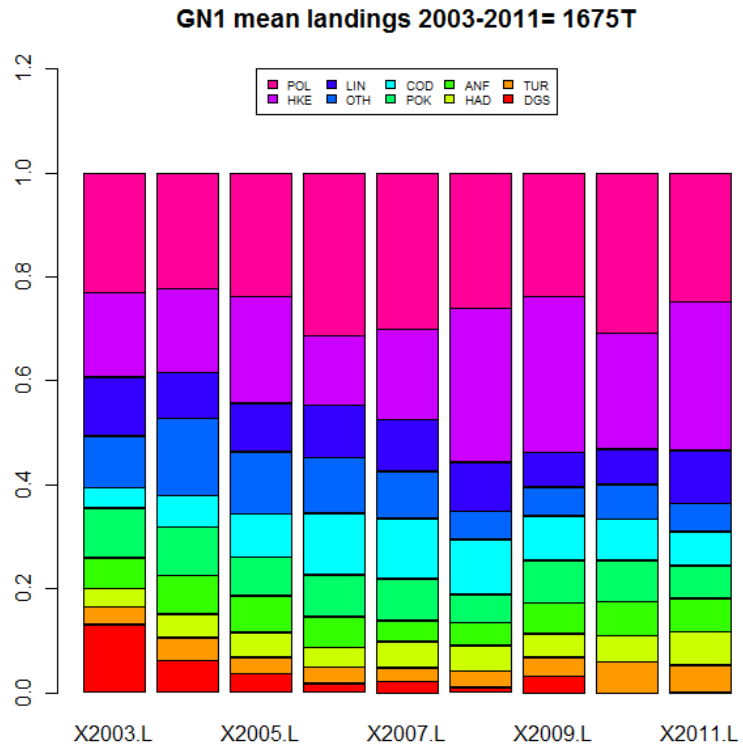


Figure 5.6.3.1.4 relative percentage (in volume, not taking into account the discards) of each species in the total catches for GN1, 2003-2011.

The main species caught by GN1 in sub-division 7fg are pollock, hake, ling, cod, saithe, anglerfish, haddock, and dogfish.

Trends are quite stable and mainly driven by anglerfish and sole.

The other gear groupings appear to be more erratic but the level of effort of these gear grouping detailed are not significant compared to the main gear groupings except for pelagic trawl that are dominated by Herring and Sprat.

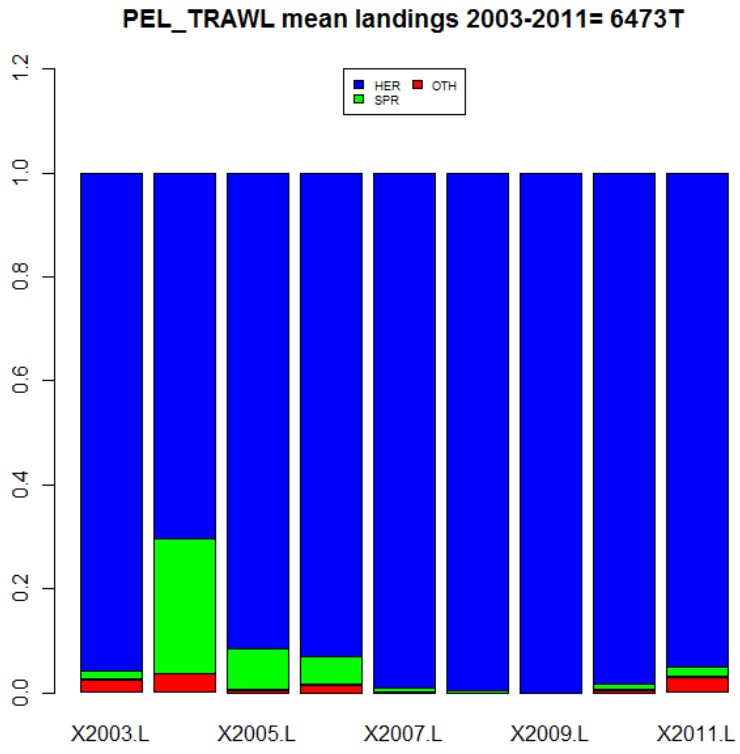


Figure 5.6.3.1.5 relative percentage (in volume, not taking into account the discards) of each species in the total catches for Pelagic Trawl, 2003-2011.

5.6.3.2 ICES sub-divisions 7fg (Cel2)

STECF EWG 12-12 notes that discard information is scarce and thus presents only landing figures. The same applies for age distributions by fisheries.

Table 5.6.3.2.1-7 lists the anglerfish, haddock, hake, Nephrops, plaice, sole, and whiting landings by Member States and gears, 2003-2011.

Table 5.6.3.2.1 Anglerfish (t) landings by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	BEL	BEAM	ANF	1.605	9.951	0.696	0.222	1.725		0.549	1.128	3.225
Cel2	7fg	BEL	BT2	ANF	672.771	760.119	574.269	532.029	605.109	328.602	303.546	419.843	649.535
Cel2	7fg	BEL	DREDGE	ANF						0.018			
Cel2	7fg	BEL	GN1	ANF						0.441			
Cel2	7fg	BEL	OTTER	ANF	0.888								
Cel2	7fg	BEL	TR2	ANF		17.925	27.222	56.967	59.418	76.737	69.156	53.37	50.343
Cel2	7fg	ENG	BEAM	ANF	0.223		1.532						
Cel2	7fg	ENG	BT1	ANF		1.034							
Cel2	7fg	ENG	BT2	ANF	293.644	358.271	219.346	179.904	196.717	106.667	105.256	155.43	128.678
Cel2	7fg	ENG	DREDGE	ANF	0.064	0.03	0.287	0.256	0.086	0.308	0.032	4.33	5.729
Cel2	7fg	ENG	GN1	ANF	72.693	100.238	80.858	50.936	42.145	44.127	61.573	61.483	83.613
Cel2	7fg	ENG	GT1	ANF	0.207	7.081	12.442	12.723	5.232	10.413	15.865	5.797	19.545
Cel2	7fg	ENG	LL1	ANF	0.08	0.092	0.163	0.021	0.001	0.001			
Cel2	7fg	ENG	OTTER	ANF	0.284	0.015	0.251	0.069	0.287	0.001	0.088	0.112	0.067
Cel2	7fg	ENG	POTS	ANF	0.255		0.042		0.026			0.003	
Cel2	7fg	ENG	TR1	ANF	15.422	19.57	16.698	23.109	23.381	32.044	38.382	88.524	83.988
Cel2	7fg	ENG	TR2	ANF	9.826	10.768	6.016	4.785	6.364	4.866	4.026	9.157	3.834
Cel2	7fg	ENG	TR3	ANF			0.099						
Cel2	7fg	FRA	BT2	ANF				2.368					
Cel2	7fg	FRA	GN1	ANF	12.69	24.46	4.643		0.05	0.058	0.058		0.581
Cel2	7fg	FRA	GT1	ANF	5.613	0.024	6.586	17.078	9.805	9.754	9.754	0.39	11.345
Cel2	7fg	FRA	OTTER	ANF		2.33							0.451
Cel2	7fg	FRA	PEL_TRAWL	ANF				1.024					0.535
Cel2	7fg	FRA	TR1	ANF	892.102	719.718	458.888	545.192	552.836	457.792	455.712	285.43	1034.251
Cel2	7fg	FRA	TR2	ANF	131.111	135.585	101.5	53.842	58.562	43.514	43.514	1.95	1.494
Cel2	7fg	FRA	TR3	ANF									0.389
Cel2	7fg	GBJ	BT2	ANF	40.053	29.858	4.163						
Cel2	7fg	IOM	DREDGE	ANF				0.54					
Cel2	7fg	IRL	BEAM	ANF	10.34	61.72	0.46						
Cel2	7fg	IRL	BT1	ANF	0.67								
Cel2	7fg	IRL	BT2	ANF	156.59	162.31	366.35	479.95	346.7	367.84	433.79	461.68	457.58
Cel2	7fg	IRL	DEM_SEINE	ANF	2.94	7.61	0.58						
Cel2	7fg	IRL	DREDGE	ANF	19.86	2.25	0.73	0.44					0
Cel2	7fg	IRL	GN1	ANF	23.98	38.25	49.56	32.22	19.29	15.88	32.96	28.07	32.63
Cel2	7fg	IRL	GT1	ANF	0.1				3.15	6.32	4.41	8.46	9.61
Cel2	7fg	IRL	LL1	ANF						0.01	0.01		
Cel2	7fg	IRL	none	ANF									1.65
Cel2	7fg	IRL	OTTER	ANF	4.18	23.79	0.31	1.21	0	0	0	0	0
Cel2	7fg	IRL	PEL_SEINE	ANF	2.97	4.82	0.7						
Cel2	7fg	IRL	PEL_TRAWL	ANF	0.62	6.21		0.2	0.34				
Cel2	7fg	IRL	POTS	ANF		0.36		3.14	0.23	0.81	0.36	0.07	1.37
Cel2	7fg	IRL	TR1	ANF	55.46	78.45	102.19	165.64	233.42	329.31	421.23	461.67	520.54
Cel2	7fg	IRL	TR2	ANF	261.42	284.53	374.01	383.14	520.75	449.45	351.51	329.72	331.93
Cel2	7fg	IRL	TR3	ANF				0.22		0.26	0		0
Cel2	7fg	NIR	TR1	ANF	0.058							1.032	1.867
Cel2	7fg	NIR	TR2	ANF		3.916	4.492	2.465	3.228	8.663	17.402	12.248	0.82
Cel2	7fg	NLD	DREDGE	ANF							0		
Cel2	7fg	SCO	DREDGE	ANF				2.2914	0.3627	0.6364	3.0391	3.2655	0.5517
Cel2	7fg	SCO	GN1	ANF		0.0307							
Cel2	7fg	SCO	OTTER	ANF							0.0166		
Cel2	7fg	SCO	TR1	ANF	1.6859	1.9236		3.3824	1.53	5.8496	8.168	29.0507	7.4482
Cel2	7fg	SCO	TR2	ANF	0.5209	0.0563		0.8534		1.6223			8.191
Sum					2690.926	2873.296	2415.083	2556.217	2690.745	2301.994	2380.407	2422.213	3451.79

Table 5.6.3.2.2 Haddock (t) landings by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	BEL	BEAM	HAD	0.121		0.157	0.057	0.16		0.174	0.797	1.548
Cel2	7fg	BEL	BT2	HAD	106.116	127.727	154.824	89.212	97.567	88.419	94.372	119.352	150.395
Cel2	7fg	BEL	OTTER	HAD	4.041								
Cel2	7fg	BEL	TR2	HAD		1.693	7.005	7.991	17.585	18.138	33.972	42.22	42.375
Cel2	7fg	ENG	BEAM	HAD	0.001		0.793						
Cel2	7fg	ENG	BT1	HAD		0.275							
Cel2	7fg	ENG	BT2	HAD	38.613	70.302	48.348	25.01	25.905	17.033	25.71	27.64	11.955
Cel2	7fg	ENG	GN1	HAD	40.882	56.002	55.492	45.736	31.731	34.396	34.916	30.862	49.008
Cel2	7fg	ENG	GT1	HAD		0.001	0.055	0.367	1.075	0.438	0.081	0.012	0.519
Cel2	7fg	ENG	LL1	HAD	0.057	0.747	0.914	0.557	0.002		0		
Cel2	7fg	ENG	OTTER	HAD	0.012				0.023	0.001	0.001	0.027	0
Cel2	7fg	ENG	PEL_SEINE	HAD								0.303	
Cel2	7fg	ENG	POTS	HAD			1.017						
Cel2	7fg	ENG	TR1	HAD	12.56	21.568	2.277	3.561	13.138	36.233	20.654	12.22	7.486
Cel2	7fg	ENG	TR2	HAD	13.521	9.227	7.567	10.59	12.864	11.427	5.348	10.675	7.199
Cel2	7fg	ENG	TR3	HAD			0.242						
Cel2	7fg	FRA	BT2	HAD				2.096					
Cel2	7fg	FRA	GN1	HAD	0.092	0.039	0.115			0.068	0.068	0.02	0.005
Cel2	7fg	FRA	GT1	HAD	0.055		0.004	0.02	0.03	0.013	0.013		0.008
Cel2	7fg	FRA	LL1	HAD			0.002						
Cel2	7fg	FRA	OTTER	HAD		2.745						6.6	2.905
Cel2	7fg	FRA	PEL_TRAWL	HAD				0.097					1.305
Cel2	7fg	FRA	TR1	HAD	1841.537	2845.116	1607.444	1038.685	1462.404	1672.187	1665.277	3006.01	1800.055
Cel2	7fg	FRA	TR2	HAD	129.133	230.535	140.252	69.07	128.009	102.29	102.29	43.03	10.922
Cel2	7fg	FRA	TR3	HAD									0.684
Cel2	7fg	GBJ	BT2	HAD	4.27	3.989	0.373						
Cel2	7fg	IRL	BEAM	HAD	14.93	44.45	0.65						
Cel2	7fg	IRL	BT1	HAD	0.26								
Cel2	7fg	IRL	BT2	HAD	116.49	121.88	192.59	181.71	161.72	135.48	161.36	167.76	150.77
Cel2	7fg	IRL	DEM_SEINE	HAD	3.55	29.5	2.28						
Cel2	7fg	IRL	DREDGE	HAD	0.67	2.26		0.09					
Cel2	7fg	IRL	GN1	HAD	27.1	40.09	35.42	10.86	41.77	33.61	33.24	38.69	69.34
Cel2	7fg	IRL	GT1	HAD								0.14	
Cel2	7fg	IRL	OTTER	HAD	5.27	26.26	0.19	0.77	0	0	0.04	0	0
Cel2	7fg	IRL	PEL_SEINE	HAD	4.07	41.28	7.1						
Cel2	7fg	IRL	PEL_TRAWL	HAD	1.27	4.61		1.48	0.18				4.91
Cel2	7fg	IRL	POTS	HAD		1.49		0.13		0.03		0.09	3.28
Cel2	7fg	IRL	TR1	HAD	128.84	118.84	254.12	257.45	429.02	488.71	1002.84	825	1570.75
Cel2	7fg	IRL	TR2	HAD	423.34	474.78	752.65	635.96	524.79	407.2	672.72	575.32	506.4
Cel2	7fg	IRL	TR3	HAD				0.2		0	0		0
Cel2	7fg	NIR	TR1	HAD	4.049					11.578	0.021	41.055	91.879
Cel2	7fg	NIR	TR2	HAD		2.972	3.969	3.562	0.188	0.655	5.859	7.204	0.675
Cel2	7fg	SCO	TR1	HAD	0.3421	1.038		0.2392		0.0986	1.626	18.282	17.5367
Cel2	7fg	SCO	TR2	HAD	0.7577	2.3608		0.3234		0.116			25.7403
Sum					2921.95	4281.777	3275.85	2385.824	2948.161	3058.121	3860.582	4973.309	4527.65

Table 5.6.3.2.3 Hake (t) landings by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	BEL	BEAM	HKE		0.411			0.073				0.022
Cel2	7fg	BEL	BT2	HKE	9.147	12.813	9.437	14.341	9.217	4.924	5.065	8.147	9.603
Cel2	7fg	BEL	OTTER	HKE	1.166								
Cel2	7fg	BEL	TR2	HKE		0.356	0.464	1.894	1.389	2.213	1.764	3.152	0.451
Cel2	7fg	ENG	BEAM	HKE	0.001		0.034	0.002					
Cel2	7fg	ENG	BT1	HKE		0.009							
Cel2	7fg	ENG	BT2	HKE	7.804	8.559	5.01	3.302	3.198	2.071	3.945	4.763	3.018
Cel2	7fg	ENG	DREDGE	HKE									0.002
Cel2	7fg	ENG	GN1	HKE	243.42	217.981	231.203	134.527	152.629	176.771	181.938	119.563	271.514
Cel2	7fg	ENG	GT1	HKE			0.039	2.967	2.532	2.306	0.136	0.106	0.266
Cel2	7fg	ENG	LL1	HKE	0.007	5.439	3.073	1.422					
Cel2	7fg	ENG	OTTER	HKE	0.002		0.207	0	0.007		0.01		
Cel2	7fg	ENG	PEL_SEINE	HKE								0.009	
Cel2	7fg	ENG	TR1	HKE	3.51	3.15	5.073	7.308	6.927	13.181	23.392	22.77	17.747
Cel2	7fg	ENG	TR2	HKE	1.946	1.201	1.328	1.387	0.93	0.653	0.657	0.832	0.299
Cel2	7fg	ENG	TR3	HKE			0.01						
Cel2	7fg	FRA	BT2	HKE				0.149					
Cel2	7fg	FRA	GN1	HKE	0.64	0.078	38.951		0.168	0.005	0.005	3.41	9
Cel2	7fg	FRA	GT1	HKE	0.004	0.001	0.052	0.062	0.053			0.04	0.4833
Cel2	7fg	FRA	OTTER	HKE		0.813						1.26	0.348
Cel2	7fg	FRA	PEL_TRAWL	HKE				0.027	0.038				0.58
Cel2	7fg	FRA	TR1	HKE	123.875	103.093	85.706	76.63	86.224	70.667	70.406	299.395	393.1691
Cel2	7fg	FRA	TR2	HKE	22.273	22.459	28.955	7.592	9.002	7.126	7.126	2.757	0.773
Cel2	7fg	FRA	TR3	HKE									0.087
Cel2	7fg	GBJ	BT2	HKE	0.543	0.515	0.103						
Cel2	7fg	IRL	BEAM	HKE	7.25	13.02							
Cel2	7fg	IRL	BT1	HKE	0.07								
Cel2	7fg	IRL	BT2	HKE	59.04	33.15	42.33	43.28	46.59	23.19	19.81	37.53	32.5
Cel2	7fg	IRL	DEM_SEINE	HKE	1.56	11.76	0.24						
Cel2	7fg	IRL	DREDGE	HKE	0.18	0.66							0
Cel2	7fg	IRL	GN1	HKE	64.83	130.08	132.03	56.67	111	233.6	290.03	186.08	233.29
Cel2	7fg	IRL	GT1	HKE					0.02			0.85	0.3
Cel2	7fg	IRL	OTTER	HKE	0.59	8.76	0	0	0	0	0	0	0
Cel2	7fg	IRL	PEL_SEINE	HKE	1.92	4.86	0.48						
Cel2	7fg	IRL	PEL_TRAWL	HKE	0.43	2.33		0.15	0.07				1.61
Cel2	7fg	IRL	POTS	HKE		0.34				0.01			1.64
Cel2	7fg	IRL	TR1	HKE	50.45	64.76	68.24	107.57	143.23	164.84	180.82	283.14	437.09
Cel2	7fg	IRL	TR2	HKE	114.15	113.07	98.93	115.97	106.15	97.08	73.06	108.17	55.26
Cel2	7fg	IRL	TR3	HKE				0.12		0	0		0
Cel2	7fg	NIR	TR1	HKE	0.761			0.008			0.056	5.317	10.694
Cel2	7fg	NIR	TR2	HKE		1.795	1.335	0.379	0.153	0.559	0.645	1.796	0.01
Cel2	7fg	SCO	GN1	HKE	0.4557	0.01							
Cel2	7fg	SCO	OTTER	HKE							0.003		
Cel2	7fg	SCO	TR1	HKE	0.2769	0.7827		0.9708	0.4807	2.7857	2.2064	9.0713	1.6557
Cel2	7fg	SCO	TR2	HKE	0.1133			0.1456		0.6021			0.0044
Sum					716.4149	762.2557	753.23	576.8734	680.0807	802.5838	861.0744	1098.158	1481.416

Table 5.6.3.2.4 Nephrops (t) landings by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	BEL	BEAM	NEP	0.01							0.055	
Cel2	7fg	BEL	BT2	NEP	0.12	0.572	1.076	0.721	1.46	0.388	2.645	4.285	4.331
Cel2	7fg	BEL	TR2	NEP		11.836	5.418	6.491	4.791	8.688	12.278	10.934	3.084
Cel2	7fg	ENG	BEAM	NEP			0.016						
Cel2	7fg	ENG	BT2	NEP	3.041	2.958	3.148	1.753	0.243	0.598	2.862	0.769	1.168
Cel2	7fg	ENG	GN1	NEP					0.003				
Cel2	7fg	ENG	POTS	NEP			0.081	0.069				0.002	
Cel2	7fg	ENG	TR1	NEP	4.963	1.331	2.076	1.135	0.585	2.966	7.647	4.63	4.636
Cel2	7fg	ENG	TR2	NEP	9.91	0.801	0.003		1.595		8.872	41.921	
Cel2	7fg	FRA	GN1	NEP			0.481						
Cel2	7fg	FRA	OTTER	NEP								1.89	
Cel2	7fg	FRA	PEL_TRAWL	NEP				0.95					
Cel2	7fg	FRA	TR1	NEP	683.549	479.493	479.289	307.541	209.096	284.143	284.143	586.91	309.971
Cel2	7fg	FRA	TR2	NEP	146.341	27.295	45.84	14.184	11.765	12.525	12.525		0.06
Cel2	7fg	FRA	TR3	NEP									0.085
Cel2	7fg	IRL	BEAM	NEP	2.14	38.92	6.42						
Cel2	7fg	IRL	BT1	NEP	0.2								
Cel2	7fg	IRL	BT2	NEP	63.6	75.46	83.9	83.29	83.2	32.38	26.88	16.64	17.5
Cel2	7fg	IRL	DREDGE	NEP		0.9							
Cel2	7fg	IRL	GN1	NEP	0.23	12.51	9.53	3.89		3.97	2.31		0.05
Cel2	7fg	IRL	GT1	NEP	0.74								
Cel2	7fg	IRL	none	NEP									6.55
Cel2	7fg	IRL	OTTER	NEP	35	209.55	0.12	3.04		0.1	0.1		
Cel2	7fg	IRL	PEL_SEINE	NEP	7.59	2.6	0.08						
Cel2	7fg	IRL	PEL_TRAWL	NEP	3.88	47.46		1.16	0.98				
Cel2	7fg	IRL	POTS	NEP		3.54			0.71	0.54			0.1
Cel2	7fg	IRL	TR1	NEP	143.62	214.45	371.18	436.36	675.74	1080.17	1242.14	827.94	861.3
Cel2	7fg	IRL	TR2	NEP	1905.31	1675.39	2415.86	1805.46	3110.87	2916.77	2041.8	2350.57	1501.66
Cel2	7fg	IRL	TR3	NEP				0.3					
Cel2	7fg	NIR	TR1	NEP			0.608						
Cel2	7fg	NIR	TR2	NEP		34.58	65.012	58.484	46.887	338.122	310.42	328.044	7.586
Cel2	7fg	SCO	TR1	NEP	0.0824	0.1096				0.1361	0.066	40.9943	14.3043
Cel2	7fg	SCO	TR2	NEP						0.665			23.634
SUM					3010.326	2839.756	3490.138	2724.828	4147.925	4682.161	3954.688	4215.584	2756.019

Table 5.6.3.2.5 Plaice (t) landings by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	BEL	BEAM	PLE	0.149	0.763	1.066	0.322	0.727		1.606	0.405	1.068
Cel2	7fg	BEL	BT2	PLE	206.623	197.953	150.713	129.684	138.073	105.029	137.42	125.442	154.468
Cel2	7fg	BEL	OTTER	PLE	5.456								
Cel2	7fg	BEL	TR2	PLE		4.363	14.957	40.588	54.17	79.031	79.566	61.549	51.533
Cel2	7fg	ENG	BEAM	PLE	0.061	0.059	0.016			0.201			
Cel2	7fg	ENG	BT1	PLE		0.021							
Cel2	7fg	ENG	BT2	PLE	65.888	39.437	27.117	27.423	24.032	23.644	28.012	25.234	22.474
Cel2	7fg	ENG	DREDGE	PLE	0.002	0.004			0.001			0.033	0.006
Cel2	7fg	ENG	GN1	PLE	0.227	0.522	0.762	0.887	0.356	0.137	0.199	0.676	0.555
Cel2	7fg	ENG	GT1	PLE		0.001	0.03	0.063	0.011	0.012	0.014	0.056	0.119
Cel2	7fg	ENG	LL1	PLE	0.009					0	0.001		
Cel2	7fg	ENG	OTTER	PLE	0.289	0.007	0.491	0.166	0.361	0.083	0.177	0.131	0.107
Cel2	7fg	ENG	PEL_SEINE	PLE								0.042	
Cel2	7fg	ENG	POTS	PLE			0.001						
Cel2	7fg	ENG	TR1	PLE	3.105	2.568	0.337	0.216	0.985	0.823	1.785	1.253	1.945
Cel2	7fg	ENG	TR2	PLE	28.957	20.504	11.459	23.544	14.542	17.458	12.81	12.55	8.866
Cel2	7fg	ENG	TR3	PLE			0.017						
Cel2	7fg	FRA	BT2	PLE			3.43	0.09				0.235	1.795
Cel2	7fg	FRA	DREDGE	PLE	0.009		0.004					0.065	0.065
Cel2	7fg	FRA	GN1	PLE	0.017	0.008	0.013			0.003	0.003		
Cel2	7fg	FRA	GT1	PLE	0.007	0.153	0.004	0.012				0.39	1.5153
Cel2	7fg	FRA	OTTER	PLE		0.105						2.12	0.034
Cel2	7fg	FRA	PEL_TRAWL	PLE	0.003			0.059				0.05	0.09
Cel2	7fg	FRA	POTS	PLE									0.061
Cel2	7fg	FRA	TR1	PLE	117.392	91.342	64.276	51.687	51.98	72.277	71.83799	91.84	60.79327
Cel2	7fg	FRA	TR2	PLE	18.84	14.018	13.791	5.051	8.354	6.97	6.97	3.07	1.389
Cel2	7fg	FRA	TR3	PLE									0.036
Cel2	7fg	GBJ	BT2	PLE	9.709	11.014	1.739						
Cel2	7fg	IRL	BEAM	PLE	0.26	1.4							
Cel2	7fg	IRL	BT2	PLE	9.22	5.49	10.74	15.54	23.15	14.31	7.88	7.15	6.84
Cel2	7fg	IRL	DEM_SEINE	PLE	0.53	0.53							
Cel2	7fg	IRL	DREDGE	PLE	0.08			0.04					0
Cel2	7fg	IRL	GN1	PLE	0.21	0.39	0.13	0.1	0.32	0.01	0.46	0	
Cel2	7fg	IRL	GT1	PLE	0.02							0.03	0
Cel2	7fg	IRL	OTTER	PLE	0.97	1	0.02	0	0	0	0	0	0
Cel2	7fg	IRL	PEL_SEINE	PLE	0.1	1.22							
Cel2	7fg	IRL	PEL_TRAWL	PLE		0.25							0.18
Cel2	7fg	IRL	POTS	PLE		0.08				0.02		0.04	
Cel2	7fg	IRL	TR1	PLE	14.88	7.52	7.71	5.75	13.7	23.86	28.48	32.7	39.03
Cel2	7fg	IRL	TR2	PLE	24.22	28	26.43	26.67	21.87	24.1	24.88	23.2	21.19
Cel2	7fg	IRL	TR3	PLE						0	0		
Cel2	7fg	NIR	TR1	PLE	0.164								0.001
Cel2	7fg	NIR	TR2	PLE		0.501	0.217	0.496		0.213	0.861	0.716	0.034
Cel2	7fg	SCO	DREDGE	PLE								0.0012	0.0009
Cel2	7fg	SCO	OTTER	PLE							0.0349		
Cel2	7fg	SCO	TR1	PLE	0.0806						0.038	0.3198	0.436
Cel2	7fg	SCO	TR2	PLE		0.2141							0.0931
Sum					507.4776	429.4371	335.47	328.388	352.632	368.181	403.0349	389.298	374.7246

Table 5.6.3.2.6 Sole (t) landings by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	BEL	BEAM	SOL	0.178	1.289	2.138	0.737	4.979		2.23	4.201	3.811
Cel2	7fg	BEL	BT2	SOL	686.854	693.827	624.618	527.845	522.599	412.171	438.424	534.504	688.257
Cel2	7fg	BEL	OTTER	SOL	0.649								
Cel2	7fg	BEL	TR2	SOL		15.101	15.278	43.165	46.052	49.729	75.219	80.117	80.706
Cel2	7fg	ENG	BEAM	SOL	1.59	0.048	0.21			0.396			
Cel2	7fg	ENG	BT1	SOL		0.384							
Cel2	7fg	ENG	BT2	SOL	264.394	212.959	175.979	181.496	211.838	185.231	171.996	154.503	141.531
Cel2	7fg	ENG	DREDGE	SOL	0.028	0.01	0.209	0.062	0.021	0.007	0.007	0.359	0.286
Cel2	7fg	ENG	GN1	SOL	0.867	0.922	0.894	0.6	0.715	0.25	0.199	0.214	0.274
Cel2	7fg	ENG	GT1	SOL		0.011	0.04	0.001	0.007	0.014		0.001	
Cel2	7fg	ENG	LL1	SOL	0.003		0	0					0.001
Cel2	7fg	ENG	OTTER	SOL	0.068		0.163	0.022	0.061	0.013	0.007	0.024	0.051
Cel2	7fg	ENG	PEL_SEINE	SOL								0.002	
Cel2	7fg	ENG	TR1	SOL	1.639	1.159	0.343	0.07	0.131	0.917	0.924	1.217	0.271
Cel2	7fg	ENG	TR2	SOL	8.726	8.85	10.151	18.125	9.038	10.327	8.91	11.953	16.391
Cel2	7fg	ENG	TR3	SOL			0.021						
Cel2	7fg	FRA	BT2	SOL			2.615	0.021				0.37	1.54
Cel2	7fg	FRA	DREDGE	SOL	0.002		0.004					0.16	0.1
Cel2	7fg	FRA	GN1	SOL		0.287	0.018						
Cel2	7fg	FRA	GT1	SOL		1.846	0.4					1.713	6.1983
Cel2	7fg	FRA	OTTER	SOL		0.123						0.1335	0.018
Cel2	7fg	FRA	PEL_TRAWL	SOL				0.064				0.03	
Cel2	7fg	FRA	POTS	SOL									0.095
Cel2	7fg	FRA	TR1	SOL	73.682	38.95	37.966	30.528	36.219	29.986	29.97899	25.67	29.86504
Cel2	7fg	FRA	TR2	SOL	19.383	10.278	16.998	4.451	14.416	3.982	3.982	0.73	0.619
Cel2	7fg	FRA	TR3	SOL									0.007
Cel2	7fg	GBJ	BT2	SOL	50.138	47.992	20.7						
Cel2	7fg	IOM	DREDGE	SOL					0.001				
Cel2	7fg	IRL	BEAM	SOL	0.98	1.75	0.04						
Cel2	7fg	IRL	BT1	SOL	0.02								
Cel2	7fg	IRL	BT2	SOL	8.96	10.12	15.52	21.69	12.7	12.13	12.02	8.48	6.94
Cel2	7fg	IRL	DREDGE	SOL		0.37		0.05					
Cel2	7fg	IRL	GN1	SOL	0.69	0.11	0.09	0.86	0.09	0.15	0.23	0.14	0.02
Cel2	7fg	IRL	none	SOL									0.16
Cel2	7fg	IRL	OTTER	SOL	0.3	0.47	0.02	0.02	0				
Cel2	7fg	IRL	PEL_SEINE	SOL		0.79							
Cel2	7fg	IRL	PEL_TRAWL	SOL		0.54							
Cel2	7fg	IRL	POTS	SOL						0			
Cel2	7fg	IRL	TR1	SOL	1.42	2.63	1.26	2.08	2.7	2.96	3.44	3.94	7.25
Cel2	7fg	IRL	TR2	SOL	9.63	16.3	17.13	13.41	16.64	12.99	10.32	14.42	15.14
Cel2	7fg	NIR	TR1	SOL									0.004
Cel2	7fg	NIR	TR2	SOL		0.59	0.616	0.285	0.151	1.086	1.869	1.67	0.058
Cel2	7fg	SCO	DREDGE	SOL				0.0481		0.0618		0.0344	0.0087
Cel2	7fg	SCO	OTTER	SOL							0.0014		
Cel2	7fg	SCO	TR1	SOL	0.0003						0.0937	0.0028	0.1771
Cel2	7fg	SCO	TR2	SOL	0.1623	0.0735							0.0993
Sum					1130.364	1067.78	943.421	845.6301	878.358	722.4008	759.8511	844.5887	999.8784

Table 5.6.3.2.7 Whiting (t) landings by Member States and gears, 2003-2011.

ANNEX	REG_AREA	COUNTRY	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	BEL	BEAM	WHG	0.122	0.595	0.129	0.393	0.244		0.073		0.035
Cel2	7fg	BEL	BT2	WHG	112.018	136.629	177.846	53.947	67.412	73.184	38.744	64.398	63.663
Cel2	7fg	BEL	OTTER	WHG	8.389								
Cel2	7fg	BEL	TR2	WHG		35.829	36.471	69.641	54.535	43.167	45.048	29.604	24.358
Cel2	7fg	ENG	BEAM	WHG	0.059		0.014	0					
Cel2	7fg	ENG	BT1	WHG		0.001							
Cel2	7fg	ENG	BT2	WHG	21.739	13.129	12.393	7.205	9.845	10.942	9.581	8.951	8.379
Cel2	7fg	ENG	DREDGE	WHG		0.003							
Cel2	7fg	ENG	GN1	WHG	14.478	13.127	17.049	11.215	9.524	4.53	3.408	4.038	8.955
Cel2	7fg	ENG	GT1	WHG		0.097	0.065	0.08	0.225	0.043	0.061	0.017	0.101
Cel2	7fg	ENG	LL1	WHG	0.223	0.066	0.227	0.015	0.002	0.003			
Cel2	7fg	ENG	OTTER	WHG	0.003		0.013		0.033		0.013	0.013	0
Cel2	7fg	ENG	PEL_SEINE	WHG								0.612	
Cel2	7fg	ENG	POTS	WHG		0.106			0.009				
Cel2	7fg	ENG	TR1	WHG	15.847	10.371	3.064	2.025	3.232	4.874	6.762	5.974	7.505
Cel2	7fg	ENG	TR2	WHG	27.997	36.884	27.887	11.535	5.21	4.297	2.717	11.753	2.887
Cel2	7fg	ENG	TR3	WHG			0.074						
Cel2	7fg	FRA	BT2	WHG				0.063					0.025
Cel2	7fg	FRA	GN1	WHG	0.009	0.154	4.701		0.022	0.025	0.025		
Cel2	7fg	FRA	GT1	WHG	0.009		0.014		0.012			0.05	0.066
Cel2	7fg	FRA	OTTER	WHG		10.289						2.5	0.137
Cel2	7fg	FRA	PEL_TRAWL	WHG	7.727	0.18		1.285					0.135
Cel2	7fg	FRA	TR1	WHG	2766.229	2636.194	3577.314	2763.385	1789.324	1098.857	1092.821	1212.74	1141.604
Cel2	7fg	FRA	TR2	WHG	269.742	258.958	460.258	121.41	121.316	84.829	84.829	19.01	10.603
Cel2	7fg	FRA	TR3	WHG									0.733
Cel2	7fg	GBJ	BT2	WHG	1.497	1.475	1.134						
Cel2	7fg	IRL	BEAM	WHG	6.76	8.24							
Cel2	7fg	IRL	BT1	WHG	0.17								
Cel2	7fg	IRL	BT2	WHG	49.43	29.69	27.71	21.5	24.21	3.81	2.73	4.21	14.82
Cel2	7fg	IRL	DEM_SEINE	WHG	6.02	47.02	7.5						
Cel2	7fg	IRL	DREDGE	WHG	0.32	0.72		0.09					
Cel2	7fg	IRL	GN1	WHG	37.87	90.72	16.92	1.99	6.58	8.55	6.69	11.49	14.3
Cel2	7fg	IRL	GT1	WHG								0.06	0.03
Cel2	7fg	IRL	OTTER	WHG	13.18	363.95	0	0	0	0	0	0	0
Cel2	7fg	IRL	PEL_SEINE	WHG	53.27	78.91	8.68						
Cel2	7fg	IRL	PEL_TRAWL	WHG	75.05	42.19		13	0.13				5.06
Cel2	7fg	IRL	POTS	WHG		2.04							1.15
Cel2	7fg	IRL	TR1	WHG	793.4	611.34	641.43	758.07	853.92	814.01	1218.42	1672.12	2519
Cel2	7fg	IRL	TR2	WHG	1875.43	2153.58	4286.66	3141.33	3403.74	1019.6	830.71	1537.7	1304.61
Cel2	7fg	IRL	TR3	WHG				0.6		0	0		0
Cel2	7fg	NIR	TR1	WHG	6.478			13.3		0.2		28.957	24.244
Cel2	7fg	NIR	TR2	WHG		15.573	10.263	8.599	0.685	10.019	11.242	16.655	1.13
Cel2	7fg	SCO	OTTER	WHG							0.0135		
Cel2	7fg	SCO	TR1	WHG	1.5	3.5757					4.5112	1.8351	4.2781
Cel2	7fg	SCO	TR2	WHG	1.2572	6.8365							5.878
SUM					6166.223	6608.472	9317.816	7000.678	6350.21	3180.94	3358.399	4632.687	5163.686

5.6.4 ToR 1.d CPUE and LPUE of cod by area, fisheries and Member States

Tables showing LPUE and CPUE by gear groups (regulated and unregulated), area and nation are not presented in this report but are available on the JRC website: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

5.6.4.1 ICES sub-divisions 7bcefghjk (Cel1)

STECF EWG 12-12 notes that discard information is scarce. Figure 5.6.4.1.1 displays the trends in cod CPUE and LPUE, 2003-2011. The increasing trends in recent years are consistent with the ICES 2012 stock assessment.

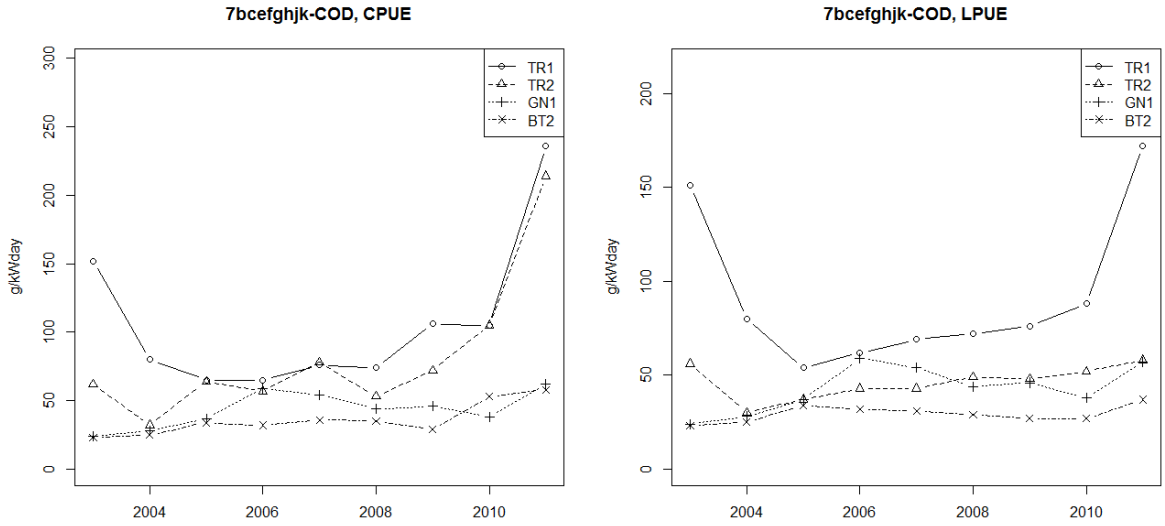


Figure 5.6.4.1.1 CPUE and LPUE for cod and for Celtic Sea and for gear category and years 2003-2011.

Table 5.6.4.1.1 Cod CPUE (g/(kW*days)) by gear/mesh-size category and year, 2003-2011. Celtic Sea

ANNEX	SPECIES	REG AREA CO	REG GEAR CO	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	CPUE 2009-2011
Cel1	COD	7bcefghjk	BEAM	19	37	13	0	0	0	0	0	0	0
Cel1	COD	7bcefghjk	BT1		19	0	0	0	0	0	0	0	0
Cel1	COD	7bcefghjk	BT2	23	25	34	32	36	35	29	53	58	47
Cel1	COD	7bcefghjk	DEM_SEINE	20	54	55	0	0		0	0	0	0
Cel1	COD	7bcefghjk	DREDGE	0	0	0	0	0	0	0	1	0	0
Cel1	COD	7bcefghjk	GN1	24	28	37	59	54	44	46	38	62	49
Cel1	COD	7bcefghjk	GT1	16	9	11	5	6	12	11	106	53	56
Cel1	COD	7bcefghjk	LL1	17	6	4	14	2	2	3	3	11	5
Cel1	COD	7bcefghjk	none	0				0		0	0	18	13
Cel1	COD	7bcefghjk	OTTER	15	21	0	6	2	0	0	12	17	11
Cel1	COD	7bcefghjk	PEL_SEINE	10	14	3				0	0	0	0
Cel1	COD	7bcefghjk	PEL_TRAWL	0	1	0	0	0	0	0	0	0	0
Cel1	COD	7bcefghjk	POTS	0	0	0	0	0	0	1	0	1	1
Cel1	COD	7bcefghjk	TR1	152	80	65	65	76	74	106	105	236	154
Cel1	COD	7bcefghjk	TR2	62	32	64	57	78	53	72	105	214	127
Cel1	COD	7bcefghjk	TR3	0	0	0	0		0	0	45	62	43

Table 5.6.4.1.2 Cod LPUE (g/(kW*days)) by gear/mesh-size category and year, 2003-2011. Celtic Sea

ANNEX	SPECIES	REG AREA CO	REG GEAR CO	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
Cel1	COD	7bcefghjk	BEAM	19	37	13	0	0	0	0	0	0	0
Cel1	COD	7bcefghjk	BT1		19	0	0	0	0	0	0	0	0
Cel1	COD	7bcefghjk	BT2	23	25	34	32	31	29	27	27	37	31
Cel1	COD	7bcefghjk	DEM_SEINE	20	54	55	0	0		0	0	0	0
Cel1	COD	7bcefghjk	DREDGE	0	0	0	0	0	0	0	1	0	0
Cel1	COD	7bcefghjk	GN1	24	28	37	59	54	44	46	38	53	47
Cel1	COD	7bcefghjk	GT1	16	9	11	5	6	12	11	23	35	23
Cel1	COD	7bcefghjk	LL1	17	6	4	14	2	2	3	3	9	5
Cel1	COD	7bcefghjk	none	0				0		0	0	19231	13
Cel1	COD	7bcefghjk	OTTER	15	20	0	0	2	0	0	6	7	7
Cel1	COD	7bcefghjk	PEL_SEINE	10	14	3				0	0	0	0
Cel1	COD	7bcefghjk	PEL_TRAWL	0	0	0	0	0	0	0	0	0	0
Cel1	COD	7bcefghjk	POTS	0	0	0	0	0	0	1	0	1	1
Cel1	COD	7bcefghjk	TR1	151	80	54	62	69	72	76	88	180	116
Cel1	COD	7bcefghjk	TR2	56	30	37	43	43	49	48	52	51	52
Cel1	COD	7bcefghjk	TR3	0	0	0	0		0	0	45	75	43

5.6.4.2 ICES sub-divisions 7fg (Cel2)

Tables showing LPUE and CPUE by gear groups (regulated and unregulated), area and nation are not presented in this report but are available on the JRC website: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

STECF EWG 12-12 notes that discard information is scarce. Figure 5.6.4.2.1 displays the trends in cod CPUE and LPUE, 2003-2011. The increasing trends in recent years is consistent with the ICES 2012 stock assessment.

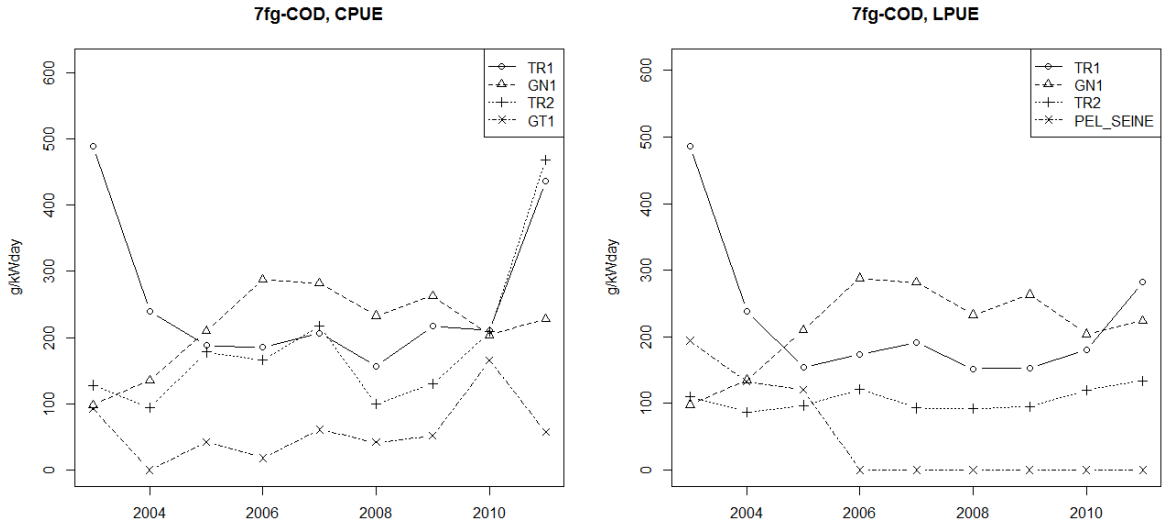


Figure 5.6.4.2.1 CPUE and LPUE for cod and for Divisions VIIfg and for gear category and years 2003-2011.

Table 5.6.4.2.1 Cod CPUE (g/(kW*days)) by gear/mesh-size category and year, 2003-2011. Divisions VIIfg

ANNEX	SPECIES	REG AREA CO	REG GEAR CO	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	CPUE 2009-2011
Cel2	COD	7fg	BEAM	21	38	109		0	0	0	0	0	0
Cel2	COD	7fg	BT1		0	0	0	0	0	0	0	0	0
Cel2	COD	7fg	BT2	34	38	55	54	59	65	45	66	93	68
Cel2	COD	7fg	DEM_SEINE	0	65	133	0	0	0	0	0	0	0
Cel2	COD	7fg	DREDGE	3	6		0			0	0	0	0
Cel2	COD	7fg	GN1	98	135	210	288	282	233	263	204	228	231
Cel2	COD	7fg	GT1	92	0	42	18	61	42	52	165	57	83
Cel2	COD	7fg	LL1	36		39	61	0		0	0	0	0
Cel2	COD	7fg	OTTER	167	116	0	115	0	0	0	36	25	23
Cel2	COD	7fg	PEL_SEINE	194	133	120	0	0	0	0	0	0	0
Cel2	COD	7fg	PEL_TRAWL	2	14		6	0		0	0	5	2
Cel2	COD	7fg	POTS	0	2	0				0	0	1	0
Cel2	COD	7fg	TR1	489	240	188	185	207	157	217	211	437	290
Cel2	COD	7fg	TR2	128	94	178	166	217	100	130	209	468	245
Cel2	COD	7fg	TR3	0		0	0	0	0	0	0	166	130

Table 5.6.4.2.2 Cod LPUE (g/(kW*days)) by gear/mesh-size category and year, 2003-2011. Divisions VIIfg

ANNEX	SPECIES	REG AREA CO	REG GEAR CO	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
Cel2	COD	7fg	BEAM	21	38	109		0	0	0	0	0	0
Cel2	COD	7fg	BT1		0	0	0	0	0	0	0	0	0
Cel2	COD	7fg	BT2	34	37	55	54	49	51	41	43	54	48
Cel2	COD	7fg	DEM_SEINE	0	65	133	0	0	0	0	0	0	0
Cel2	COD	7fg	DREDGE	3	6		0			0	0	0	0
Cel2	COD	7fg	GN1	98	135	210	288	282	233	263	204	221	230
Cel2	COD	7fg	GT1	92	0	42	18	61	42	52	41	62	36
Cel2	COD	7fg	LL1	36		39	61	0		0	0	0	0
Cel2	COD	7fg	OTTER	167	113	0	0	0	0	0	36	18	23
Cel2	COD	7fg	PEL_SEINE	194	133	120	0	0	0	0	0	0	0
Cel2	COD	7fg	PEL_TRAWL	2	12		6	0		0	0	6	2
Cel2	COD	7fg	POTS	0	2	0				0	0	1	0
Cel2	COD	7fg	TR1	486	238	154	174	191	152	153	180	265	206
Cel2	COD	7fg	TR2	110	87	97	121	93	92	95	120	90	114
Cel2	COD	7fg	TR3	0		0	0	0	0	0	0	4717	130

5.6.5 ToR 2 and 3 Main species by gear group and remarks on quality of catches and discard estimates

Discard data are only available for some species and gears, so the lack of discard information for a given species/gear in the graphs means no information rather than zero discards. Furthermore, due to the limited availability and reliability of discard information for some species and from some countries contributing landings information to the dataset, care is required in the use of these data to draw firm conclusions about catch composition.

5.6.5.1 ICES sub-divisions 7bcefghjk (Cel1)

Table 5.6.5.1.1 lists the relative landings contributions by major demersal species as caught by the major gears, ranked in ascending order in 2011, 2003-2011.

Table 5.6.5.1.1 Relative landings contributions by major demersal species as caught by the major gears, ranked in ascending order in 2011, 2003-2011.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
Cel1	7bcefghjk	ANF	BT1	0.000	0.001							
Cel1	7bcefghjk	ANF	LL1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cel1	7bcefghjk	ANF	TR3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Cel1	7bcefghjk	ANF	GT1	0.056	0.081	0.090	0.070	0.071	0.082	0.080	0.017	0.041
Cel1	7bcefghjk	ANF	GN1	0.134	0.151	0.175	0.102	0.129	0.203	0.196	0.138	0.107
Cel1	7bcefghjk	ANF	TR2	0.317	0.290	0.300	0.275	0.270	0.231	0.213	0.164	0.145
Cel1	7bcefghjk	ANF	BT2	0.164	0.179	0.179	0.190	0.185	0.160	0.158	0.264	0.209
Cel1	7bcefghjk	ANF	TR1	0.328	0.298	0.256	0.362	0.345	0.324	0.353	0.417	0.497
Cel1	7bcefghjk	COD	BT1		0.000				0.000			
Cel1	7bcefghjk	COD	TR3	0.000	0.000	0.000	0.000		0.000	0.000	0.001	0.001
Cel1	7bcefghjk	COD	LL1	0.004	0.002	0.002	0.008	0.001	0.001	0.001	0.001	0.002
Cel1	7bcefghjk	COD	GT1	0.003	0.004	0.005	0.003	0.005	0.006	0.005	0.009	0.009
Cel1	7bcefghjk	COD	GN1	0.034	0.074	0.089	0.092	0.092	0.087	0.091	0.060	0.050
Cel1	7bcefghjk	COD	BT2	0.074	0.138	0.199	0.149	0.134	0.108	0.092	0.080	0.065
Cel1	7bcefghjk	COD	TR2	0.259	0.242	0.346	0.361	0.356	0.354	0.333	0.282	0.169
Cel1	7bcefghjk	COD	TR1	0.625	0.539	0.358	0.387	0.413	0.443	0.478	0.567	0.704
Cel1	7bcefghjk	HKE	BT1	0.000	0.000							
Cel1	7bcefghjk	HKE	GT1	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.000
Cel1	7bcefghjk	HKE	TR3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Cel1	7bcefghjk	HKE	BT2	0.026	0.019	0.017	0.018	0.015	0.011	0.014	0.010	0.006
Cel1	7bcefghjk	HKE	TR2	0.136	0.129	0.134	0.108	0.092	0.092	0.087	0.066	0.042
Cel1	7bcefghjk	HKE	LL1	0.011	0.006	0.015	0.123	0.235	0.326	0.138	0.113	0.073
Cel1	7bcefghjk	HKE	TR1	0.356	0.359	0.402	0.380	0.355	0.301	0.321	0.287	0.259
Cel1	7bcefghjk	HKE	GN1	0.469	0.487	0.430	0.369	0.301	0.270	0.439	0.523	0.619
Cel1	7bcefghjk	NEP	BT1	0.000								
Cel1	7bcefghjk	NEP	LL1	0.000							0.000	0.000
Cel1	7bcefghjk	NEP	TR3	0.002			0.000				0.000	0.000
Cel1	7bcefghjk	NEP	GN1	0.000	0.004	0.003	0.001	0.000	0.001	0.000	0.000	0.000
Cel1	7bcefghjk	NEP	GT1	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cel1	7bcefghjk	NEP	BT2	0.016	0.023	0.018	0.019	0.013	0.005	0.006	0.004	0.005
Cel1	7bcefghjk	NEP	TR1	0.269	0.309	0.287	0.282	0.212	0.256	0.345	0.306	0.346
Cel1	7bcefghjk	NEP	TR2	0.712	0.664	0.693	0.698	0.776	0.739	0.649	0.690	0.649
Cel1	7bcefghjk	PLE	BT1		0.000				0.018			
Cel1	7bcefghjk	PLE	LL1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cel1	7bcefghjk	PLE	TR3	0.000	0.000	0.000	0.001	0.002	0.001	0.004	0.001	0.001
Cel1	7bcefghjk	PLE	GN1	0.002	0.005	0.005	0.003	0.002	0.002	0.005	0.004	0.005
Cel1	7bcefghjk	PLE	GT1	0.005	0.009	0.014	0.008	0.006	0.002	0.002	0.005	0.005
Cel1	7bcefghjk	PLE	TR1	0.104	0.085	0.066	0.061	0.074	0.106	0.117	0.142	0.161
Cel1	7bcefghjk	PLE	TR2	0.248	0.228	0.269	0.308	0.315	0.334	0.311	0.300	0.269
Cel1	7bcefghjk	PLE	BT2	0.642	0.672	0.645	0.620	0.600	0.537	0.562	0.548	0.559
Cel1	7bcefghjk	SOL	BT1	0.000	0.001							
Cel1	7bcefghjk	SOL	LL1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cel1	7bcefghjk	SOL	TR3	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001
Cel1	7bcefghjk	SOL	GN1	0.007	0.013	0.009	0.004	0.006	0.010	0.013	0.007	0.008
Cel1	7bcefghjk	SOL	GT1	0.019	0.023	0.037	0.022	0.025	0.020	0.021	0.015	0.030
Cel1	7bcefghjk	SOL	TR1	0.063	0.049	0.041	0.039	0.038	0.051	0.052	0.064	0.068
Cel1	7bcefghjk	SOL	TR2	0.184	0.169	0.175	0.204	0.219	0.222	0.247	0.212	0.186
Cel1	7bcefghjk	SOL	BT2	0.727	0.746	0.738	0.731	0.712	0.697	0.666	0.702	0.706

5.6.5.2 ICES sub-divisions 7fg (Cel2)

Table 5.6.5.2.1 lists the relative landings contributions by major demersal species as caught by the major gears, ranked in ascending order in 2011, 2003-2011.

Table 5.6.5.2.1 Relative landings contributions by major demersal species as caught by the major gears, ranked in ascending order in 2011, 2003-2011.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel
Cel2	7fg	ANF	LL1	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Cel2	7fg	ANF	BT1	0.000	0.000							
Cel2	7fg	ANF	TR3			0.000	0.000		0.000	0.000		0.000
Cel2	7fg	ANF	GT1	0.002	0.003	0.008	0.012	0.007	0.011	0.013	0.006	0.012
Cel2	7fg	ANF	GN1	0.041	0.059	0.056	0.033	0.023	0.027	0.040	0.037	0.034
Cel2	7fg	ANF	TR2	0.152	0.164	0.213	0.197	0.241	0.254	0.204	0.168	0.115
Cel2	7fg	ANF	BT2	0.439	0.476	0.483	0.469	0.428	0.349	0.355	0.430	0.360
Cel2	7fg	ANF	TR1	0.365	0.298	0.240	0.289	0.302	0.359	0.388	0.359	0.479
Cel2	7fg	COD	BT1		0.000							
Cel2	7fg	COD	LL1	0.000		0.002	0.001	0.000		0.000	0.000	0.000
Cel2	7fg	COD	TR3			0.000	0.000		0.000	0.000		0.001
Cel2	7fg	COD	GT1	0.000	0.000	0.001	0.001	0.002	0.002	0.001	0.001	0.002
Cel2	7fg	COD	GN1	0.028	0.077	0.104	0.107	0.115	0.117	0.111	0.069	0.058
Cel2	7fg	COD	BT2	0.081	0.147	0.220	0.170	0.148	0.126	0.096	0.090	0.090
Cel2	7fg	COD	TR2	0.138	0.173	0.277	0.292	0.239	0.250	0.232	0.222	0.132
Cel2	7fg	COD	TR1	0.753	0.604	0.396	0.428	0.496	0.505	0.560	0.618	0.717
Cel2	7fg	HKE	BT1	0.000	0.000							
Cel2	7fg	HKE	LL1	0.000	0.007	0.004	0.002					
Cel2	7fg	HKE	TR3			0.000	0.000		0.000	0.000		0.000
Cel2	7fg	HKE	GT1	0.000	0.000	0.000	0.005	0.004	0.003	0.000	0.001	0.001
Cel2	7fg	HKE	BT2	0.110	0.077	0.076	0.106	0.087	0.037	0.034	0.046	0.030
Cel2	7fg	HKE	TR2	0.196	0.193	0.174	0.221	0.173	0.135	0.096	0.107	0.039
Cel2	7fg	HKE	GN1	0.440	0.484	0.535	0.332	0.388	0.512	0.548	0.282	0.348
Cel2	7fg	HKE	TR1	0.255	0.239	0.211	0.334	0.348	0.313	0.322	0.565	0.582
Cel2	7fg	NEP	GT1	0.000								
Cel2	7fg	NEP	BT1	0.000								
Cel2	7fg	NEP	GN1	0.000	0.005	0.003	0.001	0.000	0.001	0.001		0.000
Cel2	7fg	NEP	TR3				0.000					0.000
Cel2	7fg	NEP	BT2	0.023	0.031	0.025	0.032	0.021	0.007	0.008	0.005	0.008
Cel2	7fg	NEP	TR1	0.281	0.274	0.245	0.274	0.213	0.292	0.388	0.347	0.433
Cel2	7fg	NEP	TR2	0.696	0.690	0.727	0.693	0.766	0.700	0.603	0.648	0.559
Cel2	7fg	PLE	LL1	0.000					0.000	0.000		
Cel2	7fg	PLE	BT1		0.000							
Cel2	7fg	PLE	TR3			0.000			0.000	0.000		0.000
Cel2	7fg	PLE	GN1	0.000	0.002	0.003	0.003	0.003	0.000	0.002	0.003	0.003
Cel2	7fg	PLE	GT1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
Cel2	7fg	PLE	TR2	0.144	0.160	0.201	0.293	0.281	0.348	0.312	0.262	0.222
Cel2	7fg	PLE	TR1	0.273	0.238	0.216	0.177	0.190	0.264	0.254	0.326	0.273
Cel2	7fg	PLE	BT2	0.583	0.599	0.581	0.527	0.526	0.389	0.431	0.409	0.497
Cel2	7fg	SOL	BT1	0.000	0.000							
Cel2	7fg	SOL	TR3			0.000						0.000
Cel2	7fg	SOL	GN1	0.002	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000
Cel2	7fg	SOL	LL1	0.000		0.000	0.000					0.000
Cel2	7fg	SOL	GT1		0.002	0.000	0.000	0.000	0.000		0.002	0.006
Cel2	7fg	SOL	TR1	0.068	0.040	0.043	0.039	0.045	0.047	0.045	0.037	0.038
Cel2	7fg	SOL	TR2	0.034	0.048	0.064	0.094	0.099	0.108	0.132	0.130	0.114
Cel2	7fg	SOL	BT2	0.896	0.909	0.893	0.866	0.856	0.845	0.823	0.831	0.842

5.6.6 ToR 4 Information on small boats (<10m by area)

Information for French, English and Irish under 10m fisheries were available. Irish information was not available in the re-submitted data. Information for other countries is given by gear type, however this information is known to be incomplete.

5.6.6.1 Fishing effort of small boats by area, Member State and fisheries

Table 5.6.6.1.1 Nominal effort (kWdays at sea) by Member State for both areas, the entire Celtic Sea (Cel 1) and the sub-divisions 7fg only (Cel2).

ANNEX	REG AREA	COUNTRY	VESSEL_LE	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel1	7bcefghjk	DNK	U10M	306	270	270	333	270	108	54		
Cel1	7bcefghjk	ENG	U10M	295423	333150	347372	2997500	3719709	3748095	2809864	2850112	2808353
Cel1	7bcefghjk	FRA	U10M	3348095	4481578	3433602	3622042	3016008	1809810	1800372	2990179	3749274
Cel1	7bcefghjk	GBG	U10M						3052	9274	3501	5172
Cel1	7bcefghjk	IOM	U10M						158			
Cel1	7bcefghjk	NIR	U10M				1145		2579	6912	1611	80
Cel1	7bcefghjk	NLD	U10M									
Cel1	7bcefghjk	SCO	U10M			2011	1403	2440	819	345	212	1132
sum				3643824	4814998	3783255	6622423	6738427	5564621	4626821	5845615	6564011

ANNEX	REG AREA	COUNTRY	VESSEL_LE	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cel2	7fg	ENG	U10M	6153	71725	62049	883688	1228406	1220405	724923	762791	785762
Cel2	7fg	FRA	u10m								5451	2395
Cel2	7fg	GBG	U10M							63		
Cel2	7fg	NIR	U10M				1145		2579	3389	1611	80
Cel2	7fg	NLD	U10M									
Cel2	7fg	SCO	U10M					634	180	37		126
sum				6153	71725	62049	884833	1229040	1223164	728412	769853	788363

5.6.6.2 Catches (landings and discards) of small boats by area, Member State and fisheries

Table 5.6.6.2.1 lists the cod landings by Member State for both areas, the entire Celtic Sea (Cel 1) and the sub-divisions 7fg only (Cel2).

Table 5.6.6.2.Cod landings (t) by Member State for both areas, the entire Celtic Sea (Cel 1) and the sub-divisions 7fg only (Cel2).

ANNEX	REG_AREA	VESSEL_LE	COUNTRY	SPECIES	2003	2003	2003	2003	2003	2003	2003	2003	2003
Cel1	7bcefghjk	u10m	ENG	COD	40.594	27.206	32.371	57.662	66.840	38.743	49.836	84.270	131.703
Cel1	7bcefghjk	u10m	FRA	COD	4.078	2.312	1.750	1.516	2.987	1.376	1.361	17.075	43.627
Cel1	7bcefghjk	u10m	GBG	COD						0.174	0.193	0.005	
Cel1	7bcefghjk	U10M	IRL	COD	195.730	17.380	19.190	10.980		1.200	0.420	28.240	34.170
Cel1	7bcefghjk	u10m	NIR	COD				0.105		0.415	0.203	0.239	0.022
Cel1	7bcefghjk	u10m	SCO	COD			0.044			0.001	0.065	0.004	0.007
sum					240.402	46.898	53.355	70.263	69.827	41.909	52.078	129.832	209.529

ANNEX	REG_AREA	VESSEL_LE	COUNTRY	SPECIES	2003	2003	2003	2003	2003	2003	2003	2003	2003
Cel2	7fg	u10m	ENG	COD	3.962	2.838	16.583	18.783	13.422	4.557	4.373	13.729	31.725
Cel2	7fg	u10m	FRA	COD								0.110	
Cel2	7fg	u10m	GBG	COD							0.012		
Cel2	7fg	U10M	IRL	COD	59.880	17.030	18.600	9.450		0.660		26.880	33.700
Cel2	7fg	u10m	NIR	COD				0.105		0.415	0.203	0.239	0.022
Cel2	7fg	u10m	SCO	COD							0.004		
sum					63.842	19.868	35.183	28.338	13.422	5.632	4.592	40.958	65.447

5.6.7 ToR 5 Any unexpected evolutions of the trends in catches and effort by area, Member State and fisheries

The STECF EWG 12-12 has no comments.

5.6.8 ToR 6 Correlation between partial cod mortality and fisheries

The STECF EWG 12-12 notes that the Celtic Sea cod stock (7e-k) is not part of the cod plan. For reasons of consistency, the STECF EWG presents partial exploitation rates by fisheries and Member States as defined in the cod plan in relation to the estimated total exploitation rate by ICES (2012) and the landings and discards volumes in relation to the estimated total catch for the year available. The full list of all fisheries can be downloaded from the EWG's web page. The trends in fishing effort in units of kWdays at sea of the relevant fisheries are also presented in Figures 5.6.8.1 for Cel1 and 5.6.8.2 for Cel2 and in the following six Tables 5.6.8.1-6 for catch, landings and discards, respectively. The presented parameters r (absolute value of Pearson's coefficient of correlation), numbers of points considered as well as a p value to quantify the statistical significance ($\leq$0.05) allow conclusions about the quality of the correlation between the partial F and fisheries specific fishing effort.

SSB has increased from below Blim to well above MSY Btrigger since 2010. Recruitment has been highly variable over time with occasional very high recruitment (1987, 2010). Fishing mortality increased from around 0.5 in 1971 to 0.8 in 1981 and varied without trend around this level until 2005, when it sharply declined to around F_{MSY} in 2011. French and Irish trawlers represent more than 80 percent of the estimated harvest rates.

STECF EWG 12-12 notes that the correlations between the summed partial harvest rates of catches and discards and their specific effort estimates in kW days at sea over the main fisheries (effort regulated fisheries in the cod plan) are hardly significant in the entire Celtic Sea (7bcefghjk) Cel1 for the main fisheries catching Cod (French TR1 and TR2, and Irish TR1). However, the correlations between the summed landings and the fishing effort of such major fisheries are significant, and they are also found significant for Irish TR2 and Belgium BT2, while the Irish just exceeds the significance level with a p value of 0.055 (Tab. 5.6.8.2).

However, these relations become significant between catches and effort for French TR1 and TR2 and remain significant for the Irish TR2 and Belgium TR2 when the area is reduced to the ICES subdivisions 7fg (Cel2).

It can be seen that the overall effort for French TR1 in Cel1 have increased over the last two years. However, the effort has decreased in Cel2 over the last years. The effort of Irish TR1 remained constant over the last year in Cel1 but has increased in Cel2. This increase could be due to effort regulation in Irish Sea and a reallocation in the Celtic Sea.

This indicates that effective fisheries management by fishing effort in units of kWdays at sea appears possible if applied in Cel2, also as an auxiliary measure to catch constraints and technical measures.

Table 5.6.8.1 Cod in the entire Celtic Sea (7bcefghjk). The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for catches of fisheries using regulated gears (in the North Sea). The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

FMSY= 0.4												Reference year				Effort kW days running previous year baseline													
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		
F estimated							0.916	0.924	0.959	0.802	0.808	0.724	0.733	0.507	0.389		Effort estimated	55516239	56222640	56322966	51759305	51760380	41005579	39024264	43560891	42376863			
reduction F estimated													0.01	-0.31	-0.23									-0.05	0.12	-0.03			
																	EFFORT												2003-2011	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011		kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n
Cel1	7bce	COD	BEL	BT1	none	catch	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	0	0	0	0	1766	0	0	0	NA	NA	1
Cel1	7bce	COD	BEL	BT2	none	catch	0.018	0.038	0.056	0.020	0.022	0.011	0.010	0.011	0.009			2914644	4568918	3996701	3246205	3351614	2285026	1932211	2392748	2339618	0.859	0.003	9
Cel1	7bce	COD	BEL	TR2	none	catch	0.000	0.001	0.003	0.003	0.004	0.002	0.005	0.004	0.008			0	119327	188914	424630	464699	467476	468989	425076	290226	0.225	0.592	8
Cel1	7bce	COD	ENG	BT1	none	catch	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0	52079	0	0	0	0	0	0	0	NA	NA	1
Cel1	7bce	COD	ENG	BT2	none	catch	0.015	0.022	0.031	0.020	0.020	0.016	0.016	0.020	0.009			6040112	5696823	5684136	5278959	5012272	4322550	3862069	3735554	3882328	0.482	0.188	9
Cel1	7bce	COD	ENG	GN1	none	catch	0.012	0.022	0.030	0.027	0.021	0.013	0.019	0.009	0.004			2072275	2209784	1683378	968269	983770	724124	636583	721781	617961	0.384	0.308	9
Cel1	7bce	COD	ENG	GT1	none	catch	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000			18276	40888	27240	71011	29897	37830	17331	16157	86642	-0.001	0.998	9
Cel1	7bce	COD	ENG	LL1	none	catch	0.001	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000			400652	340754	323584	475144	656851	202109	46467	57188	55715	0.468	0.204	9
Cel1	7bce	COD	ENG	TR1	none	catch	0.0058	0.0068	0.0069	0.007	0.0038	0.0049	0.0047	0.0041	0.003			2435406	2261954	1804168	2227366	2304849	1660337	1350751	1541252	2070764	0.258	0.503	9
Cel1	7bce	COD	ENG	TR2	none	catch	0.0096	0.0106	0.0251	0.0132	0.0167	0.0111	0.0122	0.0298	0.0076			2177819	2259084	2182086	2026756	2064267	1664642	1718133	1677997	1349076	0.107	0.784	9
Cel1	7bce	COD	ENG	TR3	none	catch	0	0	0	0	0	0	0	0	0			6269	991	3204	1505	5646	7952	10318	2204	4242	NA	NA	9
Cel1	7bce	COD	FRA	BT2	none	catch	0	0.0003	0	0.0006	0	0	0	0.0002	0			45086	317773	263900	305832	320576	146443	138669	306957	205105	0.495	0.176	9
Cel1	7bce	COD	FRA	GN1	none	catch	0.0016	0.002	0.0016	0.0011	0.0007	0.0009	0.0011	0.0009	0.0021			1783662	2085242	2144357	1947806	2175901	2240099	2239709	2233974	2042906	-0.426	0.252	9
Cel1	7bce	COD	FRA	GT1	none	catch	0.002	0.0023	0.0034	0.0013	0.0013	0.002	0.0024	0.0171	0.003			762235	971823	1201844	1371988	1529613	1043635	1043484	992674	999986	-0.232	0.548	9
Cel1	7bce	COD	FRA	LL1	none	catch	0.0013	0.0013	0.0003	0.0036	0.0003	0.0004	0.0004	0.0005	0.0004			235082	338303	405334	710618	724605	475817	475817	553903	497021	0.253	0.511	9
Cel1	7bce	COD	FRA	TR1	none	catch	0.3419	0.2813	0.1979	0.1436	0.134	0.1223	0.2124	0.1735	0.1569			7734007	7788841	7366673	7881085	7420257	6314288	6290496	9431237	10053439	-0.044	0.911	9
Cel1	7bce	COD	FRA	TR2	none	catch	0.1166	0.076	0.1776	0.1026	0.145	0.0717	0.13	0.103	0.0833			10516376	10920284	11540724	10898037	10785794	7338510	7293644	6895363	6068354	0.473	0.199	9
Cel1	7bce	COD	FRA	TR3	none	catch	0	0	0	0	0	0	0	0.0005	0.0003			5832	6986	14923	21471	4483	9527	9527	55029	54466	0.925	0	9
Cel1	7bce	COD	GBG	TR2	none	catch	0	0	0	0	0	0	0	0	0			0	0	730	6378	11065	5203	3090	7854	2298	NA	NA	7
Cel1	7bce	COD	GBJ	BT2	none	catch	0.0009	0.0028	0.0013	0	0	0	0	0	0			284450	365302	202229	0	0	0	0	0	0	NA	NA	3
Cel1	7bce	COD	GBJ	TR2	none	catch	0	0	0	0	0	0	0	0	0			3557	0	6745	19360	30580	25740	31020	37620	41195	NA	NA	8
Cel1	7bce	COD	IRL	BT2	none	catch	0.0097	0.0206	0.0523	0.035	0.0204	0.0236	0.0191	0.0301	0.0052			3748872	2331454	2969538	2079409	1767496	1020052	916246	948287	879763	0.203	0.601	9
Cel1	7bce	COD	IRL	GN1	none	catch	0.0061	0.0199	0.031	0.0178	0.0157	0.0186	0.0207	0.0144	0.0059			1062126	886948	678791	531205	561733	532849	550698	523982	451217	-0.116	0.766	9
Cel1	7bce	COD	IRL	GT1	none	catch	0	0	0	0	0	0	0	0.0003	0.0001			802	172	16260	20223	25383	44065	37113	66405	50562	0.691	0.039	9
Cel1	7bce	COD	IRL	LL1	none	catch	0	0	0	0	0	0.0002	0	0	0			91311	3600	72796	1265	55984	23606	29165	34204	17477	-0.158	0.685	9
Cel1	7bce	COD	IRL	TR1	none	catch	0.0154	0.032	0.1015	0.0531	0.0457	0.042	0.0813	0.0922	0.0566			5847912	5080624	4811084	3883296	4031609	3868538	4179250	4521574	4438717	-0.316	0.408	9
Cel1	7bce	COD	IRL	TR2	none	catch	0.0401	0.0652	0.2142	0.1196	0.093	0.0554	0.0704	0.0878	0.0399			5516623	5481022	6549003	5781300	6056725	4609737	3523331	4109070	3802745	0.618	0.076	9
Cel1	7bce	COD	IRL	TR3	none	catch	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			8499	8964	340	10012	3976	11941	17389	9604	21664	NA	NA	9
Cel1	7bce	COD	NIR	TR1	none	catch	0.0003	0	0	0	0	0	0	0	0.001			7641	0	716	5176	0	1141	1805	16615	24770	0.793	0.033	7
Cel1	7bce	COD	NIR	TR2	none	catch	0	0.0008	0.0019	0.0015	0.0007	0.0031	0.0049	0.0049	0.0002			0	53672	72432	42938	20658	131938	144056	146457	6852	0.958	0	8
Cel1	7bce	COD	NLD	TR1	none	catch	0	0	0	0	0	0	0	0	0.0001			0	0	0	0	0	0	0	6044	221	NA	NA	2
Cel1	7bce	COD	NLD	TR2	none	catch	0	0	0	0	0	0	0.0011	0.0008	0.001			36589	64393	108566	162551	113851	90839	216240	252472	259559	0.868	0.002	9
Cel1	7bce	COD	SCO	BT2	none	catch	0	0	0	0	0.0002	0	0	0	0			0	0	0	0	3666	0	1396	0	0	NA	NA	2
Cel1	7bce	COD	SCO	GN1	none	catch	0	0	0.0003	0	0	0	0	0	0			467260	643185	498868	192066	193116	355646	437451	387259	463248	0.246	0.524	9
Cel1	7bce	COD	SCO	TR1	none	catch	0.0011	0.0028	0	0.0006	0.0003	0.0011	0.0013	0.0014	0.002			802771	879428	1084677	779453	681392	835556	906397	997738	748948	-0.1	0.797	9
Cel1	7bce	COD	SCO	TR2	none	catch	0.0001	0.0005	0	0.0004	0.0002	0.0005	0.0002	0.0002	0.0017			489493	444022	419025	387991	368052	506597	495419	456612	549778	0.603	0.086	9
Sum							0.5981	0.6080	0.9365	0.5708	0.5448	0.3993	0.6118	0.6063	0.4005			55516239	56222640	56322966	51759305	51760380	41005579	39024264	43560891	42376863	0.566	0.112	9
check sum Fpar/F							0.6529	0.658	0.9765	0.7117	0.6743	0.5515	0.8347	1.1959	1.0296														

Table 5.6.8.2 Cod in the entire Celtic Sea (7bcefghjk). The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for landings of fisheries using regulated gears (in the North Sea). The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

FMSY= 0.4												Reference year				
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F estimated							0.916	0.924	0.959	0.802	0.808	0.724	0.733	0.507	0.389	
reduction F estimated													0.01	-0.31	-0.23	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011	
Cel1	7bce	COD	BEL	BT1	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Cel1	7bce	COD	BEL	BT2	none	landings	0.018	0.037	0.056	0.020	0.015	0.010	0.008	0.006	0.005	
Cel1	7bce	COD	BEL	TR2	none	landings	0.000	0.001	0.002	0.002	0.003	0.002	0.003	0.002	0.002	
Cel1	7bce	COD	ENG	BT1	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Cel1	7bce	COD	ENG	BT2	none	landings	0.015	0.021	0.031	0.020	0.019	0.013	0.015	0.010	0.005	
Cel1	7bce	COD	ENG	GN1	none	landings	0.012	0.022	0.030	0.027	0.021	0.013	0.019	0.009	0.004	
Cel1	7bce	COD	ENG	GT1	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Cel1	7bce	COD	ENG	LL1	none	landings	0.001	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	
Cel1	7bce	COD	ENG	TR1	none	landings	0.0058	0.0068	0.0066	0.0068	0.0037	0.0049	0.0038	0.0038	0.0024	
Cel1	7bce	COD	ENG	TR2	none	landings	0.0093	0.0103	0.0153	0.0113	0.0134	0.011	0.0087	0.0083	0.0023	
Cel1	7bce	COD	ENG	TR3	none	landings	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	FRA	BT2	none	landings	0	0.0003	0	0.0006	0	0	0	0.0002	0	
Cel1	7bce	COD	FRA	GN1	none	landings	0.0016	0.002	0.0016	0.0011	0.0007	0.0009	0.0011	0.0009	0.0018	
Cel1	7bce	COD	FRA	GT1	none	landings	0.002	0.0023	0.0034	0.0013	0.0013	0.002	0.0024	0.0033	0.0019	
Cel1	7bce	COD	FRA	LL1	none	landings	0.0013	0.0013	0.0003	0.0036	0.0003	0.0004	0.0004	0.0005	0.0004	
Cel1	7bce	COD	FRA	TR1	none	landings	0.3419	0.2813	0.1951	0.1429	0.1323	0.1217	0.1478	0.1619	0.1322	
Cel1	7bce	COD	FRA	TR2	none	landings	0.106	0.0725	0.1106	0.0807	0.077	0.0656	0.0799	0.051	0.0206	
Cel1	7bce	COD	FRA	TR3	none	landings	0	0	0	0	0	0	0	0.0005	0.0003	
Cel1	7bce	COD	GBG	TR2	none	landings	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	GBJ	BT2	none	landings	0.0009	0.0028	0.0013	0	0	0	0	0	0	
Cel1	7bce	COD	GBJ	TR2	none	landings	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	IRL	BT2	none	landings	0.0097	0.0206	0.0523	0.035	0.0197	0.0172	0.0183	0.0157	0.0047	
Cel1	7bce	COD	IRL	GN1	none	landings	0.0061	0.0199	0.031	0.0178	0.0157	0.0186	0.0207	0.0144	0.0056	
Cel1	7bce	COD	IRL	GT1	none	landings	0	0	0	0	0	0	0	0.0003	0.0001	
Cel1	7bce	COD	IRL	LL1	none	landings	0	0	0	0	0	0.0002	0	0	0	
Cel1	7bce	COD	IRL	TR1	none	landings	0.0137	0.0299	0.0517	0.0438	0.0303	0.0382	0.0619	0.0617	0.0227	
Cel1	7bce	COD	IRL	TR2	none	landings	0.0352	0.0591	0.1159	0.086	0.0504	0.0508	0.053	0.0493	0.0129	
Cel1	7bce	COD	IRL	TR3	none	landings	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Cel1	7bce	COD	NIR	TR1	none	landings	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0008	
Cel1	7bce	COD	NIR	TR2	none	landings	0	0.0008	0.0013	0.0011	0.0003	0.0031	0.0036	0.002	0.0001	
Cel1	7bce	COD	NLD	TR1	none	landings	0	0	0	0	0	0	0	0	0.0001	
Cel1	7bce	COD	NLD	TR2	none	landings	0	0	0	0	0	0	0.0009	0.0005	0.0004	
Cel1	7bce	COD	SCO	BT2	none	landings	0	0	0	0	0.0002	0	0	0	0	
Cel1	7bce	COD	SCO	GN1	none	landings	0	0	0.0003	0	0	0	0	0	0	
Cel1	7bce	COD	SCO	TR1	none	landings	0.0011	0.0028	0	0.0006	0.0003	0.0011	0.0011	0.0013	0.0016	
Cel1	7bce	COD	SCO	TR2	none	landings	0.0001	0.0005	0	0.0004	0.0002	0.0005	0.0002	0.0002	0.0004	
Sum							0.5806	0.5950	0.7070	0.5021	0.4036	0.3746	0.4487	0.4032	0.2272	
check sum Fpar/F							0.6338	0.6439	0.7372	0.6261	0.4995	0.5174	0.6121	0.7953	0.5841	

Effort kW days running previous year baseline													
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012			
Effort estimated	55516239	56222640	56322966	51759305	51760380	41005579	39024264	43560891	42376863				
							-0.05	0.12	-0.03				
EFFORT												2003-2011	
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n	
	0	0	0	0	0	1766	0	0	0	NA	NA	1	
	2914644	4568918	3996701	3246205	3351614	2285026	1932211	2392748	2339618	0.846	0.004	9	
	0	119327	188914	424630	464699	467476	468989	425076	290226	0.793	0.019	8	
	0	52079	0	0	0	0	0	0	0	NA	NA	1	
	6040112	5696823	5684136	5278959	5012272	4322550	3862069	3735554	3882328	0.698	0.036	9	
	2072275	2209784	1683378	968269	983770	724124	636583	721781	617961	0.385	0.306	9	
	18276	40888	27240	71011	29897	37830	17331	16157	86642	0.139	0.721	9	
	400652	340754	323584	475144	656851	202109	46467	57188	55715	0.468	0.204	9	
	2435406	2261954	1804168	2227366	2304849	1660337	1350751	1541252	2070764	0.34	0.37	9	
	2177819	2259084	2182086	2026756	2064267	1664642	1718133	1677997	1349076	0.745	0.021	9	
	6269	991	3204	1505	5646	7952	10318	2204	4242	NA	NA	9	
	45086	317773	263900	305832	320576	146443	138669	306957	205105	0.495	0.176	9	
	1783662	2085242	2144357	1947806	2175901	2240099	2239709	2233974	2042906	-0.447	0.227	9	
	762235	971823	1201844	1371988	1529613	1043635	1043484	992674	999986	-0.379	0.314	9	
	235082	338303	405334	710618	724605	475817	475817	553903	497021	0.253	0.511	9	
	7734607	7788841	7366673	7881085	7420257	6314288	6290496	9431237	10053439	-0.007	0.985	9	
	10516376	10920284	11540724	10898037	10785794	7338510	7293644	6895363	6068354	0.774	0.014	9	
	5832	6986	14923	21471	4483	9527	9527	55029	54466	0.925	0	9	
	0	0	730	6378	11065	5203	3090	7854	2298	NA	NA	7	
	284450	365302	202229	0	0	0	0	0	0	NA	NA	3	
	3557	0	6745	19360	30580	25740	31020	37620	41195	NA	NA	8	
	3748872	2331454	2969538	2079409	1767496	1020052	916246	948287	879763	0.368	0.33	9	
	1062126	886948	678791	531205	561733	532849	550698	523982	451217	-0.111	0.777	9	
	802	172	16260	20223	25383	44065	37113	66405	50562	0.691	0.039	9	
	91311	3600	72796	1265	55984	23606	29165	34204	17477	-0.158	0.685	9	
	5847912	5080624	4811084	3883296	4031609	3868538	4179250	4521574	4438717	-0.453	0.221	9	
	5516623	5481022	6549003	5781300	6056725	4609737	3523331	4109070	3802745	0.655	0.055	9	
	8499	8964	340	10012	3976	11941	17389	9604	21664	NA	NA	9	
	7641	0	716	5176	0	1141	1805	16615	24770	0.778	0.04	7	
	0	53672	72432	42938	20658	131938	144056	146457	6852	0.925	0.001	8	
	0	0	0	0	0	0	0	6044	221	NA	NA	2	
	36589	64393	108566	162551	113851	90839	216240	252472	259559	0.749	0.02	9	
	0	0	0	0	3666	0	1396	0	0	NA	NA	2	
	467260	643185	498868	192066	193116	355646	437451	387259	463248	0.246	0.524	9	
	802771	879428	1084677	779453	681392	835556	906397	997738	748948	-0.089	0.819	9	
	489493	444022	419025	387991	368052	506597	495419	456612	549778	0.312	0.413	9	
	55516239	56222640	56322966	51759305	51760380	41005579	39024264	43560891	42376863	0.772	0.015	9	

Table 5.6.8.3 Cod in the entire Celtic Sea (7bcefghjk). The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for discards of fisheries using regulated gears (in the North Sea). The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

FMSY= 0.4												Reference year					
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F estimated							0.916	0.924	0.959	0.802	0.808	0.724	0.733	0.507	0.389	
reduction F estimated													0.01	-0.31	-0.23	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011	
Cel1	7bce	COD	BEL	BT1	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	BEL	BT2	none	discards	0	0.0008	0	0	0.0065	0.0007	0.002	0.0053	0.0044	
Cel1	7bce	COD	BEL	TR2	none	discards	0	0	0.0009	0.0006	0.0015	0	0.0018	0.0019	0.0063	
Cel1	7bce	COD	ENG	BT1	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	ENG	BT2	none	discards	0	0.0003	0	0	0.001	0.0024	0.0009	0.0097	0.0032	
Cel1	7bce	COD	ENG	GN1	none	discards	0	0	0	0	0	0	0	0	0.0003	
Cel1	7bce	COD	ENG	GT1	none	discards	0	0	0	0	0	0	0	0.0003	0.0001	
Cel1	7bce	COD	ENG	LL1	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	ENG	TR1	none	discards	0	0	0.0003	0.0002	0.0002	0	0.0009	0.0003	0.0006	
Cel1	7bce	COD	ENG	TR2	none	discards	0.0003	0.0003	0.0097	0.0019	0.0033	0.0002	0.0036	0.0215	0.0053	
Cel1	7bce	COD	ENG	TR3	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	FRA	BT2	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	FRA	GN1	none	discards	0	0	0	0	0	0	0	0	0.0004	
Cel1	7bce	COD	FRA	GT1	none	discards	0	0	0	0	0	0	0	0.0138	0.0011	
Cel1	7bce	COD	FRA	LL1	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	FRA	TR1	none	discards	0	0	0.0028	0.0006	0.0017	0.0005	0.0046	0.0116	0.0246	
Cel1	7bce	COD	FRA	TR2	none	discards	0.0106	0.0035	0.067	0.0219	0.0681	0.006	0.0501	0.052	0.0627	
Cel1	7bce	COD	FRA	TR3	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	GBG	TR2	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	GBJ	BT2	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	GBJ	TR2	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	IRL	BT2	none	discards	0	0	0	0	0.0007	0.0064	0.0009	0.0144	0.0005	
Cel1	7bce	COD	IRL	GN1	none	discards	0	0	0	0	0	0	0	0	0.0003	
Cel1	7bce	COD	IRL	GT1	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	IRL	LL1	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	IRL	TR1	none	discards	0.0017	0.002	0.0498	0.0093	0.0154	0.0038	0.0194	0.0305	0.034	
Cel1	7bce	COD	IRL	TR2	none	discards	0.0049	0.006	0.0983	0.0336	0.0427	0.0046	0.0174	0.0385	0.027	
Cel1	7bce	COD	IRL	TR3	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	NIR	TR1	none	discards	0	0	0	0	0	0	0	0	0.0003	
Cel1	7bce	COD	NIR	TR2	none	discards	0	0	0.0006	0.0004	0.0003	0	0.0013	0.0028	0.0001	
Cel1	7bce	COD	NLD	TR1	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	NLD	TR2	none	discards	0	0	0	0	0	0	0.0002	0.0003	0.0006	
Cel1	7bce	COD	SCO	BT2	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	SCO	GN1	none	discards	0	0	0	0	0	0	0	0	0	
Cel1	7bce	COD	SCO	TR1	none	discards	0	0	0	0	0	0	0.0002	0.0002	0.0004	
Cel1	7bce	COD	SCO	TR2	none	discards	0	0	0	0	0	0	0	0	0.0012	
Sum							0.0175	0.0129	0.2294	0.0685	0.1414	0.0246	0.1633	0.2031	0.1734	
check sum Fpar/F							0.0191	0.014	0.2392	0.0854	0.175	0.034	0.2228	0.4006	0.4458	

Effort kW days running previous year baseline													
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012			
Effort estimated	55516239	56222640	56322966	51759305	51760380	41005579	39024264	43560891	42376863				
EFFORT													2003-2011
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n	
	0	0	0	0	0	1766	0	0	0	NA	NA	1	
	2914644	4568918	3996701	3246205	3351614	2285026	1932211	2392748	2339618	-0.302	0.43	9	
	0	119327	188914	424630	464699	467476	468989	425076	290226	-0.018	0.966	8	
	0	52079	0	0	0	0	0	0	0	NA	NA	1	
	6040112	5696823	5684136	5278959	5012272	4322550	3862069	3735554	3882328	-0.685	0.042	9	
	2072275	2209784	1683378	968269	983770	724124	636583	721781	617961	-0.332	0.383	9	
	18276	40888	27240	71011	29897	37830	17331	16157	86642	-0.212	0.583	9	
	400652	340754	323584	475144	656851	202109	46467	57188	55715	NA	NA	9	
	2435406	2261954	1804168	2227366	2304849	1660337	1350751	1541252	2070764	-0.573	0.107	9	
	2177819	2259084	2182086	2026756	2064267	1664642	1718133	1677997	1349076	-0.281	0.464	9	
	6269	991	3204	1505	5646	7952	10318	2204	4242	NA	NA	9	
	45086	317773	263900	305832	320576	146443	138669	306957	205105	NA	NA	9	
	1783662	2085242	2144357	1947806	2175901	2240099	2239709	2233974	2042906	-0.137	0.726	9	
	762235	971823	1201844	1371988	1529613	1043635	1043484	992674	999986	-0.191	0.622	9	
	235082	338303	405334	710618	724605	475817	475817	553903	497021	NA	NA	9	
	7734007	7788841	7366673	7881085	7420257	6314288	6290496	9431237	10053439	-0.124	0.751	9	
	10516376	10920284	11540724	10898037	10785794	7338510	7293644	6895363	6068354	-0.17	0.663	9	
	5832	6986	14923	21471	4483	9527	9527	55029	54466	NA	NA	9	
	0	0	730	6378	11065	5203	3090	7854	2298	NA	NA	7	
	284450	365302	202229	0	0	0	0	0	0	NA	NA	3	
	3557	0	6745	19360	30580	25740	31020	37620	41195	NA	NA	8	
	3748872	2331454	2969538	2079409	1767496	1020052	916246	948287	879763	-0.49	0.181	9	
	1062126	886948	678791	531205	561733	532849	550698	523982	451217	-0.354	0.35	9	
	802	172	16260	20223	25383	44065	37113	66405	50562	NA	NA	9	
	91311	3600	72796	1265	55984	23606	29165	34204	17477	NA	NA	9	
	5847912	5080624	4811084	3883296	4031609	3868538	4179250	4521574	4438717	-0.082	0.834	9	
	5516623	5481022	6549003	5781300	6056725	4609737	3523331	4109070	3802745	0.484	0.187	9	
	8499	8964	340	10012	3976	11941	17389	9604	21664	NA	NA	9	
	7641	0	716	5176	0	1141	1805	16615	24770	0.796	0.032	7	
	0	53672	72432	42938	20658	131938	144056	146457	6852	0.634	0.091	8	
	0	0	0	0	0	0	0	6044	221	NA	NA	2	
	36589	64393	108566	162551	113851	90839	216240	252472	259559	0.835	0.005	9	
	0	0	0	0	3666	0	1396	0	0	NA	NA	2	
	467260	643185	498868	192066	193116	355646	437451	387259	463248	NA	NA	9	
	802771	879428	1084677	779453	681392	835556	906397	997738	748948	-0.088	0.821	9	
	489493	444022	419025	387991	368052	506597	495419	456612	549778	0.587	0.097	9	
	55516239	56222640	56322966	51759305	51760380	41005579	39024264	43560891	42376863	0.254	0.509	9	

Table 5.6.8.4 Cod in the Celtic Sea (7fg). The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for catches of fisheries using regulated gears (in the North Sea). The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

FMSY= 0.4												Reference year					
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F estimated							0.916	0.924	0.959	0.802	0.808	0.724	0.733	0.507	0.389	
reduction F estimated													0.01	-0.31	-0.23	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011	
Cel2	7fg	COD	BEL	BT2	none	catch	0.0171	0.0367	0.0539	0.0183	0.0206	0.0099	0.0082	0.008	0.0087	
Cel2	7fg	COD	BEL	TR2	none	catch	0	0.0008	0.0028	0.003	0.0064	0.002	0.0045	0.0033	0.0078	
Cel2	7fg	COD	ENG	BT1	none	catch	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	ENG	BT2	none	catch	0.0063	0.0091	0.01	0.0059	0.0064	0.0035	0.002	0.0028	0.0013	
Cel2	7fg	COD	ENG	GN1	none	catch	0.0061	0.0143	0.0222	0.021	0.0149	0.0093	0.0111	0.0047	0.0018	
Cel2	7fg	COD	ENG	GT1	none	catch	0	0	0	0.0002	0.0003	0.0002	0.0002	0	0.0001	
Cel2	7fg	COD	ENG	LL1	none	catch	0.0001	0	0.0006	0.0004	0	0	0	0	0	
Cel2	7fg	COD	ENG	TR1	none	catch	0.0011	0.0038	0.0016	0.0011	0.0007	0.0004	0.0007	0.0005	0.0002	
Cel2	7fg	COD	ENG	TR2	none	catch	0.0019	0.002	0.0075	0.0047	0.0181	0.0018	0.0018	0.0017	0.0019	
Cel2	7fg	COD	ENG	TR3	none	catch	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	FRA	BT2	none	catch	0	0	0	0.0004	0	0	0	0	0	
Cel2	7fg	COD	FRA	GN1	none	catch	0.0003	0.0005	0	0	0	0	0	0	0.0001	
Cel2	7fg	COD	FRA	GT1	none	catch	0.0001	0	0.0003	0	0.0002	0.0002	0.0002	0.0009	0.0003	
Cel2	7fg	COD	FRA	LL1	none	catch	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	FRA	TR1	none	catch	0.2888	0.238	0.1625	0.1109	0.1014	0.0812	0.1445	0.1107	0.0685	
Cel2	7fg	COD	FRA	TR2	none	catch	0.032	0.0229	0.0432	0.0123	0.0331	0.0038	0.0067	0.0055	0.0016	
Cel2	7fg	COD	FRA	TR3	none	catch	0	0	0	0	0	0	0	0	0.0001	
Cel2	7fg	COD	GBJ	BT2	none	catch	0.0006	0.0015	0.0003	0	0	0	0	0	0	
Cel2	7fg	COD	IRL	BT2	none	catch	0.0077	0.0166	0.0445	0.0325	0.0181	0.0225	0.0183	0.0234	0.005	
Cel2	7fg	COD	IRL	GN1	none	catch	0.0046	0.0181	0.0288	0.0151	0.0142	0.0168	0.0185	0.0121	0.0045	
Cel2	7fg	COD	IRL	GT1	none	catch	0	0	0	0	0	0	0	0.0002	0	
Cel2	7fg	COD	IRL	LL1	none	catch	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	IRL	TR1	none	catch	0.0078	0.0176	0.0745	0.041	0.0348	0.0355	0.0679	0.0678	0.0492	
Cel2	7fg	COD	IRL	TR2	none	catch	0.0288	0.0526	0.1967	0.1141	0.0823	0.0504	0.0672	0.0812	0.0374	
Cel2	7fg	COD	IRL	TR3	none	catch	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	NIR	TR1	none	catch	0.0003	0	0	0	0	0	0	0	0.0012	
Cel2	7fg	COD	NIR	TR2	none	catch	0	0.0008	0.0022	0.0015	0.002	0.0033	0.0049	0.0039	0.0002	
Cel2	7fg	COD	SCO	GN1	none	catch	0	0	0.0003	0	0	0	0	0	0	
Cel2	7fg	COD	SCO	TR1	none	catch	0.0003	0	0	0	0	0	0	0.0006	0.0003	
Cel2	7fg	COD	SCO	TR2	none	catch	0.0001	0.0005	0	0	0	0	0	0	0.0004	
Sum							0.4040	0.4358	0.6519	0.3824	0.3535	0.2408	0.3567	0.3273	0.1906	
check sum Fpar/F							0.441	0.4716	0.6798	0.4768	0.4375	0.3326	0.4866	0.6456	0.49	

Effort kW days running previous year baseline																
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012						
Effort estimated	15045231	15381614	15796036	13389703	13102326	11121591	10726508	12222444	10729266							
							-0.04	0.14	-0.12							
EFFORT															2003-2011	
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r		p	n			
	2419519	3744619	3121706	2534199	2448583	1651116	1570823	1987520	1876094	0.844		0.004	9			
	0	110564	168754	400049	443057	434936	449108	379027	250105	0.277		0.507	8			
	0	8787	0	0	0	0	0	0	0	NA		NA	1			
	1050450	1012837	785332	645496	570358	411556	416037	403681	278222	0.821		0.007	9			
	427137	513629	440032	405494	377381	309350	260006	285724	320757	0.518		0.153	9			
	1570	23919	9277	26791	18299	16459	11269	7110	42487	0.161		0.678	9			
	28062	33074	44504	32769	14101	6377	4888	4613	4628	0.792		0.011	9			
	111759	122527	80092	86398	74498	101146	115046	162847	138708	-0.074		0.85	9			
	277253	234967	251717	308751	232452	259463	224727	272447	205009	-0.117		0.765	9			
	0	373	1119	0	0	0	0	0	1890	NA		NA	3			
	0	0	2200	15965	0	0	0	2151	4131	NA		NA	4			
	29862	37833	18804	0	5908	441	441	4199	6296	0.902		0.002	8			
	8456	2259	14256	27751	21032	19104	19104	19151	46708	0.116		0.767	9			
	0	0	4745	0	552	883	883	0	0	NA		NA	4			
	3460445	3326622	3113639	2740592	2475013	2303217	2295080	3283327	2632751	0.718		0.029	9			
	711296	593609	731407	287766	355358	230956	230956	73415	39461	0.878		0.002	9			
	0	0	0	0	0	0	0	212	2621	NA		NA	2			
	151639	145409	46378	0	0	0	0	0	0	NA		NA	3			
	2877794	1784027	2398012	1779651	1544553	960802	840028	910631	863511	0.204		0.599	9			
	326700	420394	315963	184702	232984	301994	246028	237741	193268	0.317		0.406	9			
	802	0	0	0	9643	12369	8195	22274	16468	0.71		0.114	6			
	0	0	2167	0	3583	4986	4137	4448	2935	NA		NA	6			
	686132	832656	857361	1052210	1393754	1649186	1978882	1875560	2261874	0.5		0.17	9			
	2453633	2360432	3309991	2799841	2856080	2302531	1861492	2033133	1445169	0.731		0.025	9			
	0	0	0	720	0	324	1500	0	1498	NA		NA	4			
	7641	0	716	5176	0	1141	1805	16027	23389	0.792		0.034	7			
	0	52370	72432	42938	20658	127726	143570	145881	6852	0.908		0.002	8			
	689	721	1337	0	0	0	0	0	2025	NA		NA	4			
	9622	7701	0	9616	4479	12835	13077	87699	44476	0.905		0.002	8			
	4770	12285	4095	2828	0	2693	29426	3626	17933	0.288		0.489	8			
	15045231	15381614	15796036	13389703	13102326	11121591	10726508	12222444	10729266	0.825		0.006	9			

Table 5.6.8.5 Cod in the Celtic Sea (7fg). The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for landings of fisheries using regulated gears (in the North Sea). The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

FMSY= 0.4												Reference year					
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F estimated							0.916	0.924	0.959	0.802	0.808	0.724	0.733	0.507	0.389	
reduction F estimated													0.01	-0.31	-0.23	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011	
Cel2	7fg	COD	BEL	BT2	none	landings	0.017	0.036	0.054	0.018	0.014	0.009	0.006	0.005	0.004	
Cel2	7fg	COD	BEL	TR2	none	landings	0.000	0.001	0.002	0.002	0.002	0.002	0.003	0.002	0.002	
Cel2	7fg	COD	ENG	BT1	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Cel2	7fg	COD	ENG	BT2	none	landings	0.006	0.009	0.010	0.006	0.006	0.003	0.002	0.002	0.001	
Cel2	7fg	COD	ENG	GN1	none	landings	0.006	0.014	0.022	0.021	0.015	0.009	0.011	0.005	0.002	
Cel2	7fg	COD	ENG	GT1	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Cel2	7fg	COD	ENG	LL1	none	landings	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	
Cel2	7fg	COD	ENG	TR1	none	landings	0.0011	0.0038	0.0016	0.0011	0.0007	0.0004	0.0007	0.0005	0.0002	
Cel2	7fg	COD	ENG	TR2	none	landings	0.0019	0.002	0.0041	0.0038	0.0025	0.0018	0.0011	0.0014	0.0005	
Cel2	7fg	COD	ENG	TR3	none	landings	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	FRA	BT2	none	landings	0	0	0	0.0004	0	0	0	0	0	
Cel2	7fg	COD	FRA	GN1	none	landings	0.0003	0.0005	0	0	0	0	0	0	0.0001	
Cel2	7fg	COD	FRA	GT1	none	landings	0.0001	0	0.0003	0	0.0002	0.0002	0.0002	0.0002	0.0002	
Cel2	7fg	COD	FRA	LL1	none	landings	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	FRA	TR1	none	landings	0.2888	0.238	0.1625	0.1109	0.1014	0.0812	0.0986	0.1052	0.0591	
Cel2	7fg	COD	FRA	TR2	none	landings	0.028	0.0224	0.0266	0.01	0.0099	0.0037	0.0045	0.0031	0.0004	
Cel2	7fg	COD	FRA	TR3	none	landings	0	0	0	0	0	0	0	0	0.0001	
Cel2	7fg	COD	GBJ	BT2	none	landings	0.0006	0.0015	0.0003	0	0	0	0	0	0	
Cel2	7fg	COD	IRL	BT2	none	landings	0.0077	0.0166	0.0445	0.0325	0.0176	0.0161	0.0174	0.0152	0.0045	
Cel2	7fg	COD	IRL	GN1	none	landings	0.0046	0.0181	0.0288	0.0151	0.0142	0.0168	0.0185	0.0121	0.0044	
Cel2	7fg	COD	IRL	GT1	none	landings	0	0	0	0	0	0	0	0.0002	0	
Cel2	7fg	COD	IRL	LL1	none	landings	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	IRL	TR1	none	landings	0.0061	0.0159	0.0316	0.0319	0.0239	0.0318	0.0505	0.0468	0.0167	
Cel2	7fg	COD	IRL	TR2	none	landings	0.0243	0.0471	0.1037	0.0813	0.0455	0.0459	0.0501	0.0463	0.0115	
Cel2	7fg	COD	IRL	TR3	none	landings	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	NIR	TR1	none	landings	0.0003	0	0	0	0	0	0	0	0.0008	
Cel2	7fg	COD	NIR	TR2	none	landings	0	0.0008	0.0013	0.0011	0.0003	0.0031	0.0036	0.002	0.0001	
Cel2	7fg	COD	SCO	GN1	none	landings	0	0	0.0003	0	0	0	0	0	0	
Cel2	7fg	COD	SCO	TR1	none	landings	0.0003	0	0	0	0	0	0	0.0005	0.0002	
Cel2	7fg	COD	SCO	TR2	none	landings	0.0001	0.0005	0	0	0	0	0	0	0.0001	
Sum							0.3938	0.4268	0.4939	0.3360	0.2536	0.2241	0.2676	0.2471	0.1076	
check sum Fpar/F							0.4299	0.4619	0.515	0.419	0.3139	0.3095	0.3651	0.4874	0.2766	

Effort kW days running previous year baseline																		
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012								
Effort estimated	15045231	15381614	15796036	13389703	13102326	11121591	10726508	12222444	10729266									
							-0.04	0.14	-0.12									
EFFORT																	2003-2011	
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n						
	2419519	3744619	3121706	2534199	2448583	1651116	1570823	1987520	1876094	0.835	0.005	9						
	0	110564	168754	400049	443057	434936	449108	379027	250105	0.827	0.011	8						
	0	8787	0	0	0	0	0	0	0	NA	NA	1						
	1050450	1012837	785332	645496	570358	411556	416037	403681	278222	0.842	0.004	9						
	427137	513629	440032	405494	377381	309350	260006	285724	320757	0.518	0.153	9						
	1570	23919	9277	26791	18299	16459	11269	7110	42487	0.161	0.678	9						
	28062	33074	44504	32769	14101	6377	4888	4613	4628	0.792	0.011	9						
	111759	122527	80092	86398	74498	101146	115046	162847	138708	-0.08	0.838	9						
	277253	234967	251717	308751	232452	259463	224727	272447	205009	0.574	0.106	9						
	0	373	1119	0	0	0	0	0	1890	NA	NA	3						
	0	0	2200	15965	0	0	0	2151	4131	NA	NA	4						
	29862	37833	18804	0	5908	441	441	4199	6296	0.902	0.002	8						
	8456	2259	14256	27751	21032	19104	19104	19151	46708	0.085	0.827	9						
	0	0	4745	0	552	883	883	0	0	NA	NA	4						
	3460445	3326622	3113639	2740592	2475013	2303217	2295080	3283327	2632751	0.778	0.014	9						
	711296	593609	731407	287766	355358	230956	230956	73415	39461	0.982	0	9						
	0	0	0	0	0	0	0	212	2621	NA	NA	2						
	151639	145409	46378	0	0	0	0	0	0	NA	NA	3						
	2877794	1784027	2398012	1779651	1544553	960802	840028	910631	863511	0.338	0.373	9						
	326700	420394	315963	184702	232984	301994	246028	237741	193268	0.317	0.405	9						
	802	0	0	0	9643	12369	8195	22274	16468	0.71	0.114	6						
	0	0	2167	0	3583	4986	4137	4448	2935	NA	NA	6						
	686132	832656	857361	1052210	1393754	1649186	1978882	1875560	2261874	0.491	0.18	9						
	2453633	2360432	3309991	2799841	2856080	2302531	1861492	2033133	1445169	0.778	0.014	9						
	0	0	0	720	0	324	1500	0	1498	NA	NA	4						
	7641	0	716	5176	0	1141	1805	16027	23389	0.773	0.042	7						
	0	52370	72432	42938	20658	127726	143570	145881	6852	0.922	0.001	8						
	689	721	1337	0	0	0	0	0	2025	NA	NA	4						
	9622	7701	0	9616	4479	12835	13077	87699	44476	0.836	0.01	8						
	4770	12285	4095	2828	0	2693	29426	3626	17933	0.087	0.837	8						
	15045231	15381614	15796036	13389703	13102326	11121591	10726508	12222444	10729266	0.912	0.001	9						

Table 5.6.8.6 Cod in the Celtic Sea (7fg). The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 cod assessment, as well as partial Fs for discards of fisheries using regulated gears (in the North Sea). The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. Cod plan article 13 assignments apply since 2009 or 2010, as interpreted from the background documents of national declarations *). A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

FMSY= 0.4												Reference year					
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F estimated							0.916	0.924	0.959	0.802	0.808	0.724	0.733	0.507	0.389	
reduction F estimated													0.01	-0.31	-0.23	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011	
Cel2	7fg	COD	BEL	BT2	none	discards	0.000	0.001	0.000	0.000	0.006	0.001	0.002	0.003	0.004	
Cel2	7fg	COD	BEL	TR2	none	discards	0.000	0.000	0.001	0.001	0.004	0.000	0.002	0.001	0.006	
Cel2	7fg	COD	ENG	BT1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Cel2	7fg	COD	ENG	BT2	none	discards	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.001	0.000	
Cel2	7fg	COD	ENG	GN1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Cel2	7fg	COD	ENG	GT1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Cel2	7fg	COD	ENG	LL1	none	discards	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Cel2	7fg	COD	ENG	TR1	none	discards	0	0	0	0	0	0	0	0	0.0001	
Cel2	7fg	COD	ENG	TR2	none	discards	0	0	0.0034	0.0008	0.0156	0	0.0007	0.0003	0.0014	
Cel2	7fg	COD	ENG	TR3	none	discards	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	FRA	BT2	none	discards	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	FRA	GN1	none	discards	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	FRA	GT1	none	discards	0	0	0	0	0	0	0	0.0008	0.0001	
Cel2	7fg	COD	FRA	LL1	none	discards	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	FRA	TR1	none	discards	0	0	0	0	0	0	0.0459	0.0055	0.0094	
Cel2	7fg	COD	FRA	TR2	none	discards	0.004	0.0005	0.0166	0.0023	0.0233	0.0002	0.0022	0.0024	0.0012	
Cel2	7fg	COD	FRA	TR3	none	discards	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	GBJ	BT2	none	discards	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Cel2	7fg	COD	IRL	BT2	none	discards	0	0	0	0	0.0005	0.0064	0.0009	0.0082	0.0005	
Cel2	7fg	COD	IRL	GN1	none	discards	0	0	0	0	0	0	0	0	0.0001	
Cel2	7fg	COD	IRL	GT1	none	discards	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	IRL	LL1	none	discards	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	IRL	TR1	none	discards	0.0017	0.0018	0.0429	0.0091	0.0109	0.0037	0.0174	0.021	0.0325	
Cel2	7fg	COD	IRL	TR2	none	discards	0.0046	0.0055	0.093	0.0327	0.0368	0.0046	0.0171	0.0349	0.0259	
Cel2	7fg	COD	IRL	TR3	none	discards	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	NIR	TR1	none	discards	0	0	0	0	0	0	0	0	0.0005	
Cel2	7fg	COD	NIR	TR2	none	discards	0	0	0.0009	0.0004	0.0017	0.0002	0.0013	0.0019	0.0001	
Cel2	7fg	COD	SCO	GN1	none	discards	0	0	0	0	0	0	0	0	0	
Cel2	7fg	COD	SCO	TR1	none	discards	0	0	0	0	0	0	0	0.0002	0.0001	
Cel2	7fg	COD	SCO	TR2	none	discards	0	0	0	0	0	0	0	0	0.0004	
Sum							0.0103	0.0091	0.1581	0.0461	0.0998	0.0167	0.0891	0.0804	0.0833	
check sum Fpar/F							0.0112	0.0098	0.1649	0.0575	0.1235	0.0231	0.1216	0.1586	0.2141	

Effort kW days running previous year baseline																	
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012							
Effort estimated	15045231	15381614	15796036	13389703	13102326	11121591	10726508	12222444	10729266								
							-0.04	0.14	-0.12								
EFFORT																2003-2011	
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n					
	2419519	3744619	3121706	2534199	2448583	1651116	1570823	1987520	1876094	-0.277	0.471	9					
	0	110564	168754	400049	443057	434936	449108	379027	250105	0.055	0.897	8					
	0	8787	0	0	0	0	0	0	0	NA	NA	1					
	1050450	1012837	785332	645496	570358	411556	416037	403681	278222	-0.506	0.164	9					
	427137	513629	440032	405494	377381	309350	260006	285724	320757	NA	NA	9					
	1570	23919	9277	26791	18299	16459	11269	7110	42487	NA	NA	9					
	28062	33074	44504	32769	14101	6377	4888	4613	4628	NA	NA	9					
	111759	122527	80092	86398	74498	101146	115046	162847	138708	0.371	0.326	9					
	277253	234967	251717	308751	232452	259463	224727	272447	205009	-0.261	0.497	9					
	0	373	1119	0	0	0	0	0	1890	NA	NA	3					
	0	0	2200	15965	0	0	0	2151	4131	NA	NA	4					
	29862	37833	18804	0	5908	441	441	4199	6296	NA	NA	8					
	8456	2259	14256	27751	21032	19104	19104	19151	46708	0.093	0.813	9					
	0	0	4745	0	552	883	883	0	0	NA	NA	4					
	3460445	3326622	3113639	2740592	2475013	2303217	2295080	3283327	2632751	-0.455	0.218	9					
	711296	593609	731407	287766	355358	230956	230956	73415	39461	0.349	0.358	9					
	0	0	0	0	0	0	0	212	2621	NA	NA	2					
	151639	145409	46378	0	0	0	0	0	0	NA	NA	3					
	2877794	1784027	2398012	1779651	1544553	960802	840028	910631	863511	-0.54	0.133	9					
	326700	420394	315963	184702	232984	301994	246028	237741	193268	-0.4	0.286	9					
	802	0	0	0	9643	12369	8195	22274	16468	NA	NA	6					
	0	0	2167	0	3583	4986	4137	4448	2935	NA	NA	6					
	686132	832656	857361	1052210	1393754	1649186	1978882	1875560	2261874	0.31	0.416	9					
	2453633	2360432	3309991	2799841	2856080	2302531	1861492	2033133	1445169	0.581	0.101	9					
	0	0	0	720	0	324	1500	0	1498	NA	NA	4					
	7641	0	716	5176	0	1141	1805	16027	23389	0.786	0.036	7					
	0	52370	72432	42938	20658	127726	143570	145881	6852	0.381	0.352	8					
	689	721	1337	0	0	0	0	0	2025	NA	NA	4					
	9622	7701	0	9616	4479	12835	13077	87699	44476	0.975	0	8					
	4770	12285	4095	2828	0	2693	29426	3626	17933	0.344	0.404	8					
	15045231	15381614	15796036	13389703	13102326	11121591	10726508	12222444	10729266	0.008	0.984	9					

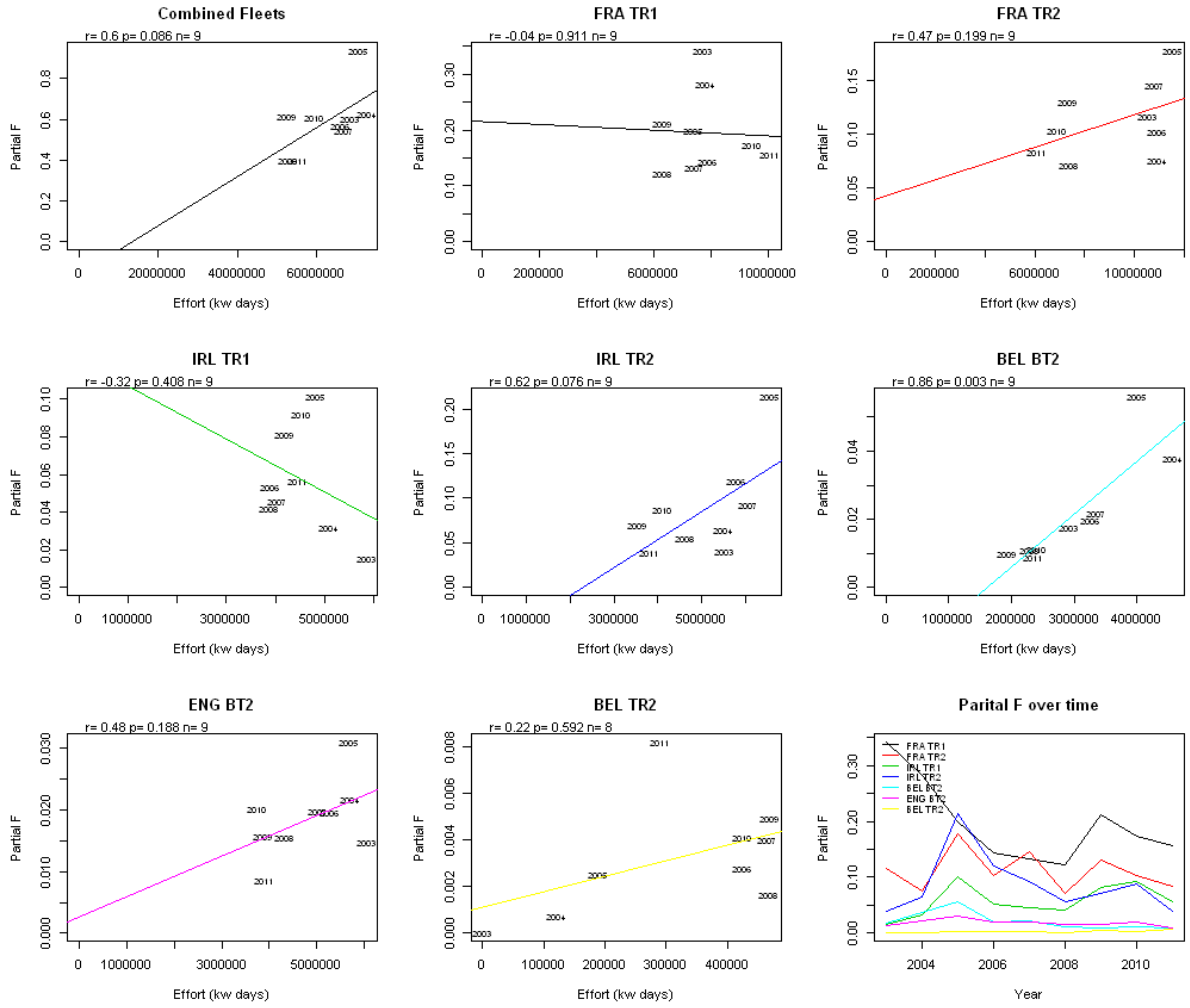


Fig. 5.6.8.1 Cod. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) in the entire Celtic Sea 7bcefghjk (Cel 1) of major fisheries, 2003-2011. R = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated.

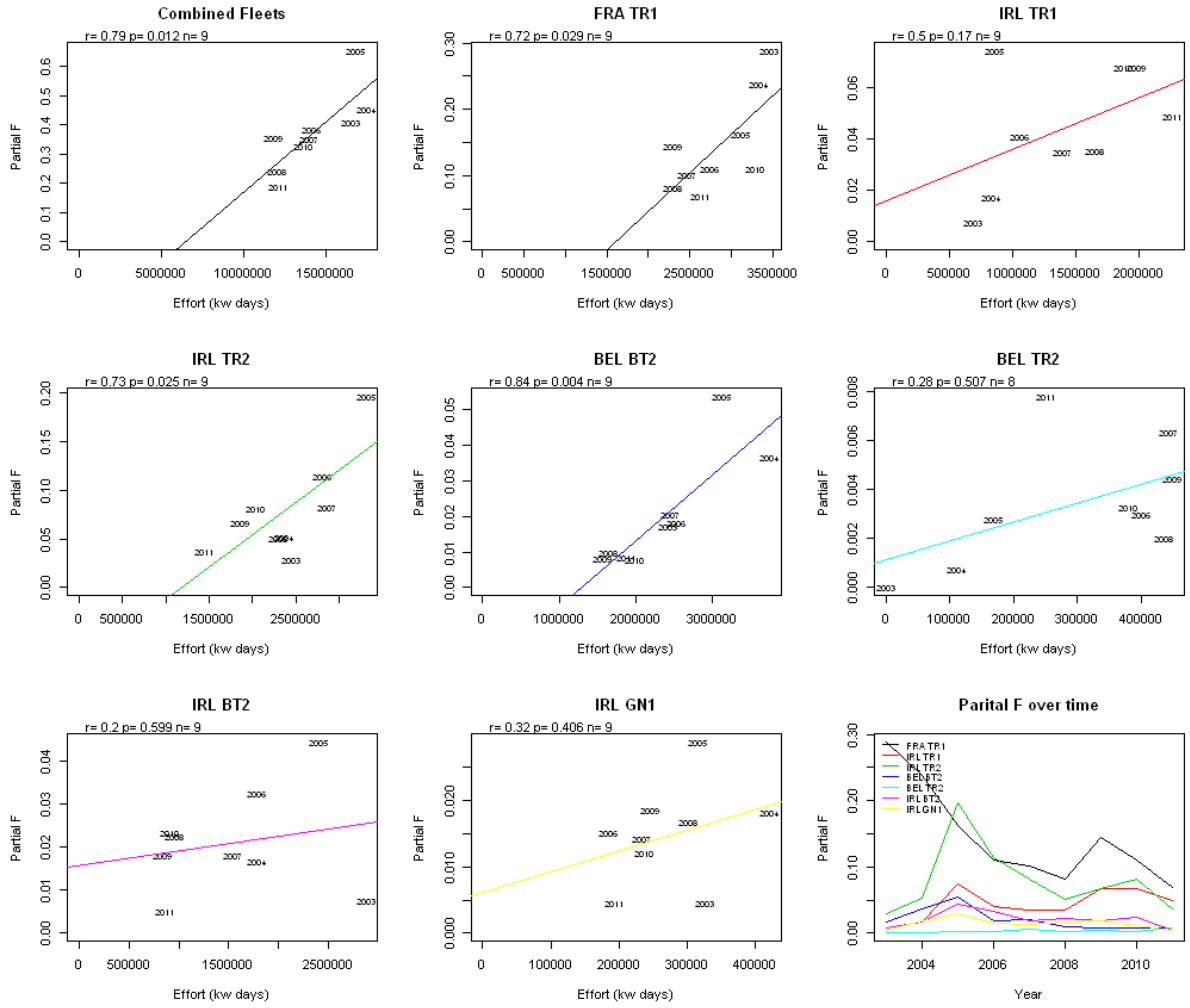


Fig. 5.6.8.2 Cod. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) in the Celtic Sea 7fg (Cel 2) of major fisheries, 2003-2011. R = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated.

5.7 Southern hake and *Nephrops* effort regime evaluation in the context of Annex IIB to Council Regulation (EC) No 57/2011)

STECF-EWG considers that Annex IIB of Council Reg. 57/2011 represents a fleet specific effort management regime which supports the southern hake and *Nephrops* recovery plan (Council Reg. 2166/2005). Annex IIB excludes the Gulf of Cádiz although this area is included in the recovery plan regulation (EC Reg 2166/2005) and is part of the definition of the stock area of southern hake and Iberian *Nephrops*.

STECF-EWG notes that the classification of the trawl mesh size ≥32mm in point 1 of Annex IIB mixes two clearly defined Portuguese fisheries. One fishery targets demersal fish species with mesh size 65-69mm, and the other targets crustaceans using two different mesh sizes (shrimps with mesh size 55-59mm and *Nephrops* with mesh size ≥70mm) with different licenses, operating in different fishing grounds and depth ranges. A clear identification of these mesh sizes in the effort regulation may provide more focused and efficient effort management. In the EU Data Collection Framework (DCF) regulation, the metiers are defined according to gear, target species and mesh size, with some aggregation for this last characteristic in the sampling programs. Table 5.7.1 summarizes the Portuguese DCF metiers covered by the analysis of Annex IIB.

Table 5.7.1 Portuguese Annex IIB regulated gears and trammel nets.

Effort control regime (Annex IIB)	DCF métier (Acronym)	Description
Bottom trawls, Danish seines and similar trawls of mesh size ≥ 32 mm	OTB_DEF_>=55_0_0	Otter bottom trawl targeting demersal fish using mesh size ≥ 65 mm
	OTB_CRU_>=55_0_0	Otter bottom trawl targeting crustacean species using mesh size ≥ 55 mm
Gill-nets of mesh size ≥ 60 mm	GNS_DEF_60-79_0_0	Set gillnet targeting demersal fish using mesh size of 60-79 mm
	GNS_DEF_80-99_0_0	Set gillnet targeting demersal fish using mesh size of 80-99 mm
	GNS_DEF_>=100_0_0	Set gillnet targeting demersal fish using mesh size ≥ 100 mm
Bottom longlines	LLS_DEF_0_0_0	Set longline targeting demersal fish
Trammel nets (non-regulated)	GTR_DEF_80-99_0_0	Set trammel net targeting demersal fish using mesh size of 80-99 mm
	GTR_DEF_>=100_0_0	Set trammel net targeting demersal fish using mesh size ≥ 100 mm

STECF-EWG notes that under the gears group indicated in point 1 of the Annex IIB there is also a mixture of different Spanish DCF metiers (Table 5.7.2).

The Spanish bottom trawl operating in the Northern coastal waters (ICES Divisions VIIIc and IXa) is prosecuted by vessels with an overall length over 24 m. The minimum trawl depth is 100 m, the maximum activity period is 18 hours per day and they must stop fishing 48 continuous hours per week. This fleet is composed of otter trawlers and pair trawlers.

The coastal otter trawl fleet uses two different types of gear: “baca” and “jurelera”. “Baca” gear, characterized by a vertical opening of 1.2-1.5 m and a wingspread of 22-25 m, is allowed to use a cod end

mesh size of 70 mm to catch demersal species, standing out hake (*Merluccis merluccius*), megrims (*Lepidorhombus boscii* and *L. whiffiagonis*) and anglerfish (*Lophius piscatorius and L. budegassa*). "Jurelera" permits a higher vertical opening (5-5.5 m) and is allowed to use a smaller mesh size (55 mm), so it is used to target pelagic fish as horse mackerel (*Trachurus trachurus*) and mackerel (*Scomber scombrus*). As both type of gears can be simultaneously used during the same trip, the respective DCF métiers need to be inferred by multivariate analysis (Punzón et al., 2010), giving OTB_DEF_>=55_0_0, targeting mainly demersal fish, and OTB_ MPD_>=55_0_0, which lands a variety of demersal and pelagic fish.

The pair bottom trawl fleet uses a gear that can reach a vertical opening of 25 m and a wingspread of 65 m. This fleet is allowed to use a minimum mesh size of 55 mm when it is directed to blue whiting (*Micromesistius poutassou*), the main species in landings. However, this mesh size needs to be extended to 70 mm when the hake proportion exceeds 15% in landings (Castro et al., 2010). However, both cod ends are included into the same DCF mesh range, giving an only DCF métier: PTB_DEF_>=55_0_0.

The Northern Spanish gillnet fleet uses three types of nets: "beta", "volanta" and "rasco" nets (Castro et al., 2011). "Beta" gear uses mesh sizes of 60 mm to target a variety of demersal species as pouting (*Trisopterus luscus*) and mullets (*Mullus spp.*). This fishing activity directly corresponds with DCF métier GNS_DEF_60-79_0_0. "Volanta" gear is a gillnet composed by nets with 10 m high and 50 m length, which is regulated under a mesh size of 90 mm to specifically catch hake (correspond with GNS_DEF_80-99_0_0). "Rasco" gillnet is composed by nets with 3.5 m high and 50 m length, and uses a 280 mm mesh size to target anglerfish (GNS_DEF_>=100_0_0).

The Spanish set longline fleet uses a line with less than 4000 hooks and is used to catch demersal fish as hake, conger (*C. conger*), pollack (*Pollachius pollachius*) and seabass (*Dicentrarchus labrax*), among others (Castro et al., 2011). This fishing activity corresponds with the DCF métier LLS_DEF_0_0_0.

The Northern Spanish trammel net fleet uses a gear made with three walls of netting, the two outer walls being of a larger mesh size (400-500 mm) than the loosely hung inner netting panel (60-90 mm) targeting a variety of demersal fish as hake, monkfish, wrasses (*Labridae*), raja, sole (*Solea solea*) (Castro et al., 2011). This fishing activity is included in the DCF métier GTR_DEF_60-79_0_0.

Table 5.7.2 Spanish Annex IIB regulated gears and trammel nets.

Effort control regime (Annex IIB)	**DCF métier (Acronym)**	**Description**
Trawl, Danish seines or similar gears of mesh size ≥ 32 mm	OTB_DEF_>=55_0_0	Otter bottom trawl targeting demersal fish (hake, megrim, anglerfish…) using 70 mm mesh size
	OTB_ MPD_>=55_0_0	Otter bottom trawl targeting a mixed of demersal (hake) and pelagic fish (horse mackerel, mackerel…) using a minimum mesh size of 55 mm
	PTB_DEF_>=55_0_0	Pair bottom trawl targeting demersal fish (blue whiting, hake) using a minimum mesh size of 55 mm
Gillnets of mesh size ≥ 60 mm	GNS_DEF_60-79_0_0	Set gillnet targeting demersal fish (pouting, mullets…) using 60 mm mesh size
	GNS_DEF_80-99_0_0	Set gillnet targeting demersal fish (hake) using 80 mm mesh size
	GNS_DEF_>=100_0_0	Set gillnet targeting demersal fish (monkfish) using 280 mm mesh size
Bottom longlines	LLS_DEF_0_0_0	Set longline targeting demersal fish (hake, conger, pollack, seabass…)
Trammel nets (non regulated)	GTR_DEF_60-79_0_0	Set trammel net targeting demersal fish (hake, monkfish, wrasses, raja, sole…) using a minimum mesh size of 60 mm in the inner netting panel

STECF-EWG considers that the use of fishing days (or kW*days) to manage effort of static gears such as gillnets and longlines is a very poor approximation of the effective effort and thus may put at risk the management goals. A possible way to improve the impact of the effort management towards an effective

reduction in fishing mortality of static gears could be to enforce continuous closed periods so that fishermen will have to bring their gear ashore and stop fishing during certain periods.

Annex IIB of Council Reg. 57/2011 sets the maximum number of days the fishing vessels are allowed to be present in the area carrying the specified regulated gears (Table 5.7.3). The regulated gear types are named as "3a" (bottom trawler mesh size ≥32 mm), "3b" (gillnet ≥60 mm) and "3c" (bottom longline), using the 2006-2007 regulations numbering. Special conditions are applied to vessels that, in the year 2008 or 2009, landed less than 5 tons of hake, vessels which hake landings constitute less than 3% of logbook recorded landings or vessels that landed less than 2.5 tons of Norway lobster. These special conditions, previously referred as IIB72ab according to their numbering in the regulation (Annex IIB, point 7.2 a and b of previous regulations) are updated to IIB52ab since 2010 regulation.

In 2010, additional days were allocated to Spanish and Portuguese vessels on the basis of permanent cessation of vessels from each country. This different allocation is reflected in the 2011 allowed days at sea.

Table 5.7.3 Historic trends in days at sea by vessel specified in the Council Regulations since 2005.

Annex	AREA	REG GEAR	SPECON (**)	Country	2005	2006	2007	2008	2009	2010	2011
IIB	8c9a	3a, 3b & 3c (*)	none	ESP	264	240	216	194	175	158	158
				FRA							142
				PTR							172
			IIB52ab	ESP	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
				FRA							
				PTR							

(*) according to 2006 and 2007 regulations

(**) SPECON IIB52ab and IIB52a corresponds to IIB72ab and IIB72a of the regulations prior to 2010

5.7.1 ToR 1.a Fishing effort in kWdays, GTdays and number of vessels by Member state and fisheries

Effort information in kW*days, GT*days and number of vessels by quarter, gear, mesh size range, area and special condition was provided by Portugal, France, England, Scotland, Germany, and Ireland in the Divisions 8c and 9a for the years 2000-2011. Spain did not provide any data in 2011 and 2012, therefore the Spanish values presented in this report, corresponding to the period 2002-2009, are those submitted in 2010.

According to Annex IIB of Regulation 57/2011, in the context of the recovery plan for southern hake and *Nephrops* stocks, fishing vessels with overall length above 10 meters that have trawl nets with mesh sizes >32 mm or gillnets > 60 mm or bottom longlines may be present within the area for a maximum of 158 days during 2011 if they have Spanish flag, 142 days if they have French flag and 172 days if they have Portuguese flag (Table I of the Annex II B, Table 5.7.3).

If, during 2008 or 2009 these vessels landed less than 5 tonnes of hake or hake constitutes less than 3% of logbook recorded landings, or less than 2.5 tonnes of *Nephrops* per year, special conditions are applied and they are not covered by the effort limitation (Table 5.7.3), but are obliged not to exceed the same amounts in 2011. The reference periods were 2001 – 2003 for 2005 – 2009 regulations, 2007 or 2008 for 2010 regulation and 2008 or 2009 for 2011 regulation.

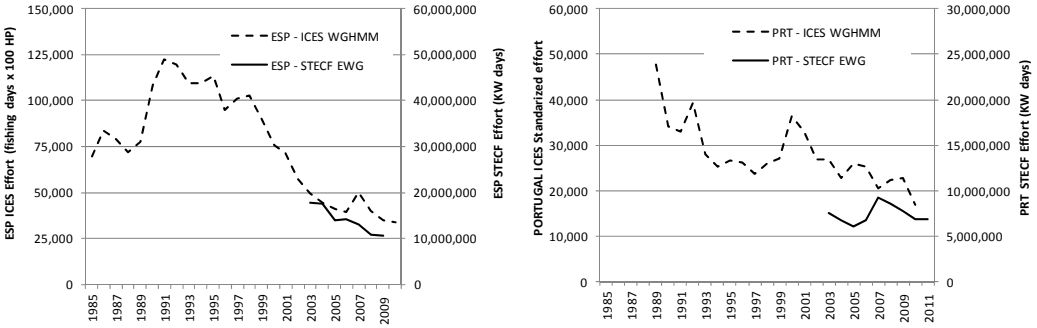


Figure 5.7.1.1 Comparison of trawl effort presented to ICES WGHMM and to STECF EWG data base (this report) (left: Spain, without Gulf of Cádiz, right: Portugal).

Effort estimates provided by Spain (2003-2009) to the EWG database (this report) come from logbooks and have a decreasing trend, while effort estimates provided to ICES WGHMM come from several sources of data and present also a decreasing trend in the same period but with a slight increase in 2007(ICES, 2012; Figure 5.7.1.1, left). Effort estimates provided by Portugal (2003-2011) to the EWG database (this report) present a decreasing trend since 2007. Portuguese data come mostly from logbooks and, for those that do not have logbooks (< 10 m), from sales records. Effort estimates presented by Portugal to the ICES WGHMM come from a standardized effort series based on logbook data (ICES, 2012; Figure 5.7.1.1, right) and have also decreasing trend. Spanish and Portuguese regulated trawls (not including Gulf of Cádiz) land 56% and 5% of 8c9a hake, respectively (see Fig. 5.7.2.3).

The effort data in terms of kW*days by Member State is given in Table 5.7.1.1 (I and II).

Table 5.7.1.1 (I) Trend in nominal effort (kW*days at sea) by Member State and existing derogations given in Table 1 of Annex IIB (Coun. Reg. 57/2011), 2000-2006. Derogations are sorted by gear, special condition (SPECON) and country. Data quality is summarised in section 4. Note that the gear type "3t" denotes the non-regulated effort for trammel gear with all mesh sizes. **No Spanish data in 2010 and 2011.**

ANNEX	AREA	REG_GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006
IIb	8c-9a	3a	IIB52ab	ESP			2,109,760	1,820,929	3,051,855	2,677,605	2,420,208
IIb	8c-9a	3a	IIB52ab	PRT			7,621	2,459,587	1,657,564	1,609,414	560,066
IIb	8c-9a	3a	none	ENG						1,277	
IIb	8c-9a	3a	none	ESP			9,822,108	15,456,694	14,344,840	11,072,135	11,473,544
IIb	8c-9a	3a	none	FRA	63,277	123,663	484,849	120,552	110,098	198,178	345,256
IIb	8c-9a	3a	NONE	IRL				4,208			1,612
IIb	8c-9a	3a	NONE	PRT	3,808,432	1,807,966	1,741,444	5,077,895	5,074,403	4,425,695	6,137,862
IIb	8c-9a	3b	IIB52ab	ESP			671,679	662,947	865,145	1,033,742	916,120
IIb	8c-9a	3b	IIB52ab	PRT			5,884	35,022	2,695	51,269	116,027
IIb	8c-9a	3b	none	ENG							26,652
IIb	8c-9a	3b	none	ESP			438,463	450,978	684,167	787,527	916,038
IIb	8c-9a	3b	none	FRA	4,723	4,750	24,598	5,762	28,023	97,700	69,478
IIb	8c-9a	3b	NONE	PRT	151,503	90,812	162,118	88,641	32,273	144,697	231,204
IIb	8c-9a	3b	none	SCO							3,234
IIb	8c-9a	3c	IIB52ab	ESP			591,039	621,801	692,039	686,974	755,191
IIb	8c-9a	3c	IIB52ab	PRT	45,446	10,923	20,594	328,631	280,951	572,385	869,687
IIb	8c-9a	3c	none	ENG				8,853			4,928
IIb	8c-9a	3c	none	ESP			310,392	344,686	383,472	545,271	830,548
IIb	8c-9a	3c	none	FRA	1,738		3,312	3,318	3,972	2,094	588
IIb	8c-9a	3c	NONE	IRL							1,684
IIb	8c-9a	3c	NONE	PRT		544		56,188	33,808	39,774	95,715
IIb	8c-9a	3c	none	SCO							
IIb	8c-9a	3t	none	ESP			461,705	438,995	736,892	955,031	742,397
IIb	8c-9a	3t	none	FRA	4,108		23,894	3,977	525		1,878
IIb	8c-9a	3t	NONE	PRT	74,911	79,822	89,495	74,729	40,252	253,707	525,524
IIb	8c-9a	none	none	DEU							
IIb	8c-9a	none	none	ENG							3,136
IIb	8c-9a	none	none	ESP			18,346,437	24,809,378	16,299,264	15,443,521	13,662,008
IIb	8c-9a	none	none	FRA	85,431	159,563	1,216,983	224,468	97,130	125,835	318,711
IIb	8c-9a	none	NONE	IRL		1,585	4,281	11,686			6,020
IIb	8c-9a	none	NONE	PRT				11,726	5,402	78,981	159,803

Table 5.7.1.1 (II) Trend in nominal effort (kW*days at sea) by Member State and existing derogations given in Table 1 of Annex IIB (Coun. Reg. 57/2011), 2000-2011. Derogations are sorted by gear, special condition (SPECON) and country. Data quality is summarised in section 4. Note that the gear type "3t" denotes the non-regulated effort for trammel gear with all mesh sizes. **No Spanish data in 2010 and 2011.**

ANNEX	AREA	REG_GEAR	SPECON	COUNTRY	2007	2008	2009	2010	2011
IIb	8c-9a	3a	IIB52ab	ESP	2,458,721	2,478,225	2,403,446		
IIb	8c-9a	3a	IIB52ab	PRT	186,292	195,742	314,693	310,340	887,002
IIb	8c-9a	3a	none	ENG					
IIb	8c-9a	3a	none	ESP	9,902,350	7,975,346	7,959,428		
IIb	8c-9a	3a	none	FRA	274,429	315,954	315,954	47,904	71,646
IIb	8c-9a	3a	NONE	IRL				82	
IIb	8c-9a	3a	NONE	PRT	8,941,196	8,299,895	7,380,318	6,493,382	5,996,917
IIb	8c-9a	3b	IIB52ab	ESP	1,056,900	1,330,193	1,668,152		
IIb	8c-9a	3b	IIB52ab	PRT	152,925	176,029	276,056	248,338	177,501
IIb	8c-9a	3b	none	ENG	1,984				
IIb	8c-9a	3b	none	ESP	1,010,060	1,195,943	1,480,125		
IIb	8c-9a	3b	none	FRA	128,595	296,765	296,765	114,202	61,604
IIb	8c-9a	3b	NONE	PRT	816,228	886,822	763,806	680,987	285,066
IIb	8c-9a	3b	none	SCO					
IIb	8c-9a	3c	IIB52ab	ESP	846,255	897,264	1,099,242		
IIb	8c-9a	3c	IIB52ab	PRT	841,563	750,091	864,313	844,144	897,019
IIb	8c-9a	3c	none	ENG					
IIb	8c-9a	3c	none	ESP	522,362	521,613	728,602		
IIb	8c-9a	3c	none	FRA	700	40,052	40,052	83,794	46,310
IIb	8c-9a	3c	NONE	IRL	2,472				
IIb	8c-9a	3c	NONE	PRT	149,000	139,305	111,767	91,062	91,410
IIb	8c-9a	3c	none	SCO				2,323	3,437
IIb	8c-9a	3t	none	ESP	716,707	917,963	932,788		
IIb	8c-9a	3t	none	FRA		2,823	2,823	5,048	3,686
IIb	8c-9a	3t	NONE	PRT	1,252,867	1,026,614	1,264,013	1,437,577	1,430,235
IIb	8c-9a	none	none	DEU	15,685	23,373	6,174	7,272	4,040
IIb	8c-9a	none	none	ENG					
IIb	8c-9a	none	none	ESP	14,825,151	13,411,326	15,960,434		
IIb	8c-9a	none	none	FRA	317,890	44,551	44,551	47,003	38,166
IIb	8c-9a	none	NONE	IRL					
IIb	8c-9a	none	NONE	PRT	304,567	440,799	393,947	370,203	409,189

Information on trends in GTdays will be made available on the website: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg06

In addition to the 2006 and 2007 regulation defined gear types "3a" (bottom trawler mesh size ≥32 mm), "3b" (gillnet ≥60 mm), "3c" (bottom longline) and the undefined ("none"), the tables include trammel nets under the coding "3t", as they were found to contribute significantly to the static effort deployed.

Spain did not submit data for the years 2010 and 2011. Portugal provided 2011 data, not changing previous data, therefore no differences were found between the data submitted in 2011 and 2012 for 2000-2010 data.

Figure 5.7.1.2 shows effort trends for Portugal and Spain, the main players in the area, for the period 2004 – 2011. Spanish data from 2010 and 2011 are not available.

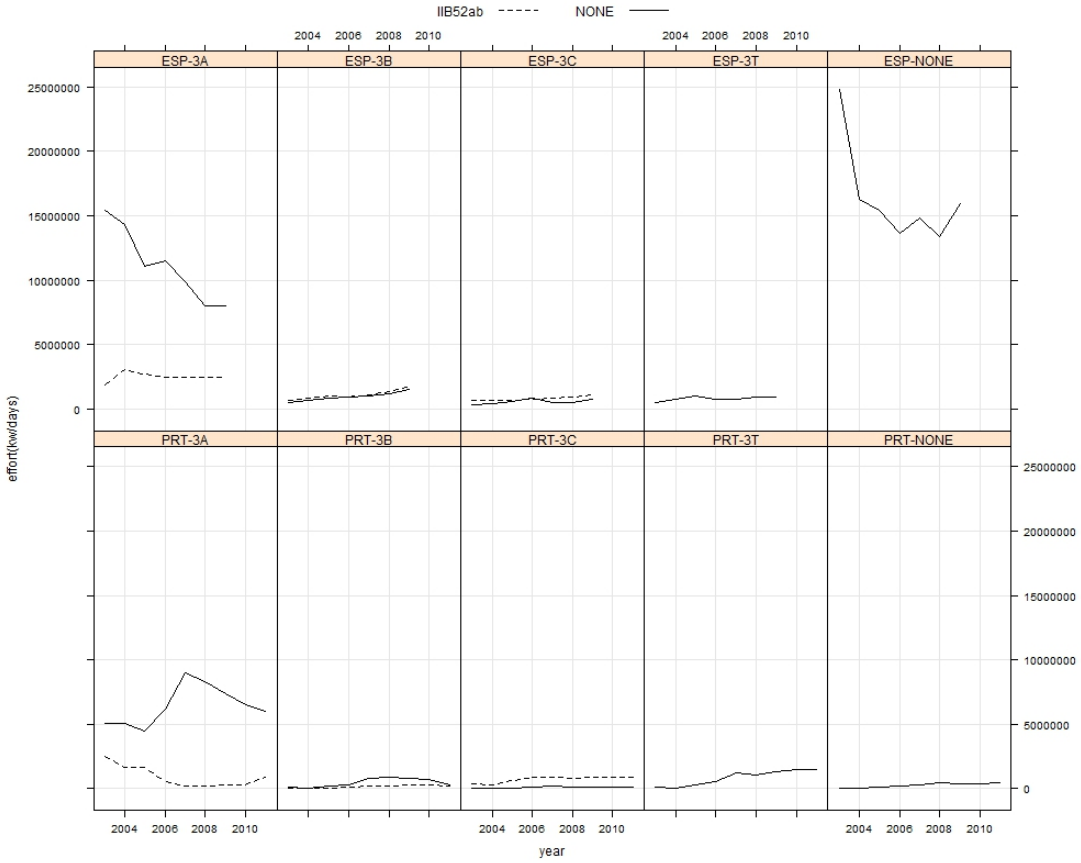


Fig. 5.7.1.2 Effort (KW*days) trends by gear type and Member State. Spanish data from 2010 and 2011 are not available.

The data submitted by the Member States for the years 2000-2003, initial period of the time series, do not seem realistic as several gears present very low effort data and/or gaps. Both Portuguese and Spanish information come from logbooks. Spanish data for 2010 and 2011 were not available. See section 4 for more details in data quality provided by Member States. Spanish unregulated gears (ESP-NONE) and Spanish and Portuguese regulated trawlers (ESP-3A and PRT-3A, respectively) are the gears deploying more effort in the area (2007-2009 average), 34%, 20% and 19% respectively.

Spanish unregulated gears effort (ESP-NONE, Figs. 5.7.1.2 and 5.7.1.3) has been stable in the period 2005-2009. The effort of trawlers (3A) under effort restrictions (continuous line) is decreasing since 2003 in the case of Spain and since 2007 in the case of Portugal (ESP and PRT 3A continuous line). The effort of trawlers (3A) without effort restrictions, i.e. with special conditions (IIB52ab, dashed line) has been stable since 2006 in the case of Spain and in the period 2007-2010 in the Portuguese case, with a slight increase in 2011.

The effort of the Spanish regulated gillnet (ESP-3B) (3%) slightly increased along the time series available, while the effort of the Spanish regulated longline (ESP-3C) and Portuguese regulated gillnet (POR-3B) and longline (POR-3C) (1%, 2% and 0.3%, respectively) has been stable.

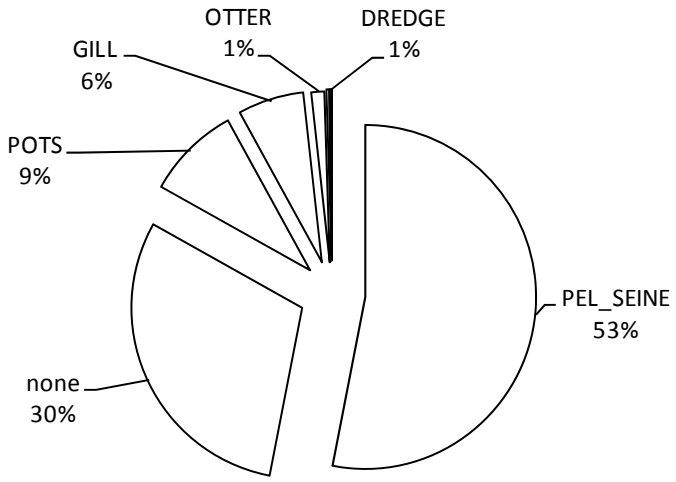


Figure 5.7.1.3.- Spanish non regulated gears (ESP-NONE): effort (KW*day) by gear (2007-2009 average). "none" gears (30%) are composed by tuna and mackerel gears (troll and hand lines).

Figure 5.7.1.3 identifies the Spanish effort composition of unregulated gears (ESP-NONE in Figure 5.7.1.2) (2007-2009 average). "none" information (30%) in the Figure 5.7.1.3 corresponds to tuna and mackerel gears (troll and hand lines), while gillnet and otter information of ESP-NONE (6% and 1%) are from unregulated or not identified mesh sizes.

Table 5.7.1.2 Trend in nominal effort (kW*days at sea) by derogations given in Table 1 of Annex IIB (Coun. Reg. 40/2008), 2000-2011. Derogations are sorted by gear and special condition (SPECON) (all countries together). Data qualities are summarised in section 4.3. Note that the gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes. **No Spanish data in 2010 and 2011.**

ANNEX	AREA	REG_GEAR	SPECON	2000	2001	2002	2003	2004	2005	2006
IIb	8c-9a	3a	IIB52ab			2,117,381	4,280,516	4,709,419	4,287,019	2,980,274
IIb	8c-9a	3a	NONE	3,871,709	1,931,629	12,048,401	20,659,349	19,529,341	15,697,285	17,958,274
IIb	8c-9a	3b	IIB52ab			677,563	697,969	867,840	1,085,011	1,032,147
IIb	8c-9a	3b	NONE	156,226	95,562	625,179	545,381	744,463	1,029,924	1,246,606
IIb	8c-9a	3c	IIB52ab	45,446	10,923	611,633	950,432	972,990	1,259,359	1,624,878
IIb	8c-9a	3c	NONE	1,738	544	313,704	413,045	421,252	587,139	933,463
IIb	8c-9a	3t	NONE	79,019	79,822	575,094	517,701	777,669	1,208,738	1,269,799
IIb	8c-9a	none	NONE	85,431	161,148	19,567,701	25,057,258	16,401,796	15,648,337	14,149,678

ANNEX	AREA	REG_GEAR	SPECON	2007	2008	2009	2010	2011
IIb	8c-9a	3a	IIB52ab	2,645,013	2,673,967	2,718,139	310,340	887,002
IIb	8c-9a	3a	NONE	19,117,975	16,591,195	15,655,700	6,541,368	6,068,563
IIb	8c-9a	3b	IIB52ab	1,209,825	1,506,222	1,944,208	248,338	177,501
IIb	8c-9a	3b	NONE	1,956,867	2,379,530	2,540,696	795,189	346,670
IIb	8c-9a	3c	IIB52ab	1,687,818	1,647,355	1,963,555	844,144	897,019
IIb	8c-9a	3c	NONE	674,534	700,970	880,421	177,179	141,157
IIb	8c-9a	3t	NONE	1,969,574	1,947,400	2,199,624	1,442,625	1,433,921
IIb	8c-9a	none	NONE	15,463,293	13,920,049	16,405,106	424,478	451,395

Table 5.7.1.2 lists the trend in effort by derogation since 2000 in terms of kW*days at sea. GT*days at sea and number of vessel are available on the web. Due to lack of Spanish data for years 2010 and 2011, nothing can be concluded on global effort changes in the last two years.

Trawl deploys most effort in the area (46%), being most of it (86%) under effort control (2007-2009 average). Between 2007 and 2009, passive gears (3b, 3c and 3t) accounted for approximately 19% of all effort. However, such results have a limited meaning regarding the fishing pressure executed by these fleets, once the unit kW*day does not take into account the number of hooks deployed and area of the nets and hence it is a poor indicator of the fishing activity. In 2007-2009, about 40% of the effort was assigned to other gears than the regulated ones ("3t" and "none" gears), of which trammel nets ("3t") contribute 5% to the overall effort deployed. Most of this effort is deployed by gears that do not target hake, *Nephrops* or anglerfish.

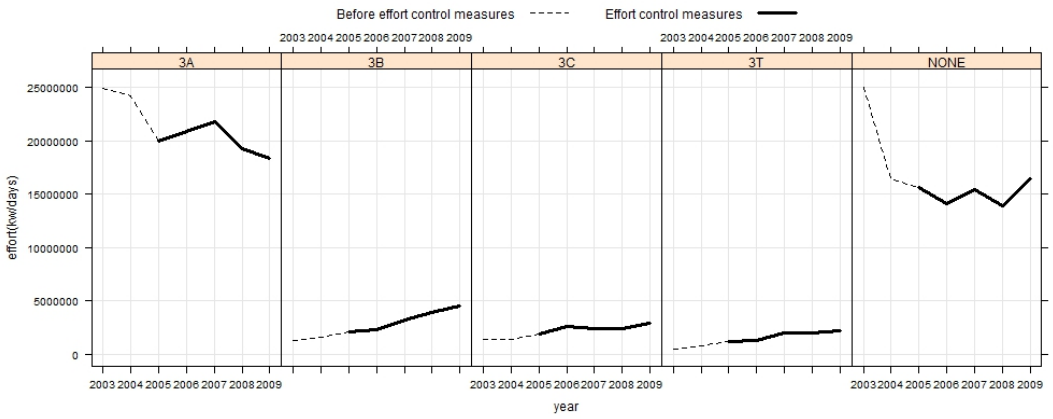


Fig. 5.7.1.4 Effort trends by gear type (Spain and Portugal together). Years 2010 and 2011 points removed from the graph since no Spanish data were available for these years. Period before effort control measures in dashed line.

Figure 5.7.1.4 shows the effort trends by gear type in the period 2002-2009, the dashed line identifying the period before the enforcement of effort control measures. Years 2010 and 2011 were not included due to unavailability of Spanish data. The effort of trawlers (3A) has decreased since 2007, while the effort of gillnets (3B) has slightly increased. The effort of longline (3C), trammel (3T) and unregulated gears (NONE) has been stable since the effort control measures were enforced.

5.7.1.1 Spatial distribution of effective fishing effort by rectangle statistical rectangle

Portugal and Spain submitted effort by ICES rectangle. Figure 5.7.1.1.1 shows the distribution of effort for regulated gears, with effort control ("none") and without effort restriction ("IIB52ab") for the period 2003-2009. For the years 2010 and 2011, only the effort from Portuguese fleets is plotted (Figure 5.7.1.1.2).

In these figures, all the Spanish longline effort was misallocated to specon "none".

As referred in Section 5.7, STECF-EWG considers that the use of fishing days (or kW*days) to manage effort of static gears such as gillnets and longlines is a very poor approximation of the effective effort. Although the figures present the effective effort in the same units, the effort deployed by the different gears is not comparable.

No changes in the effort distribution pattern have been identified since the implementation of the fishing effort regulation.

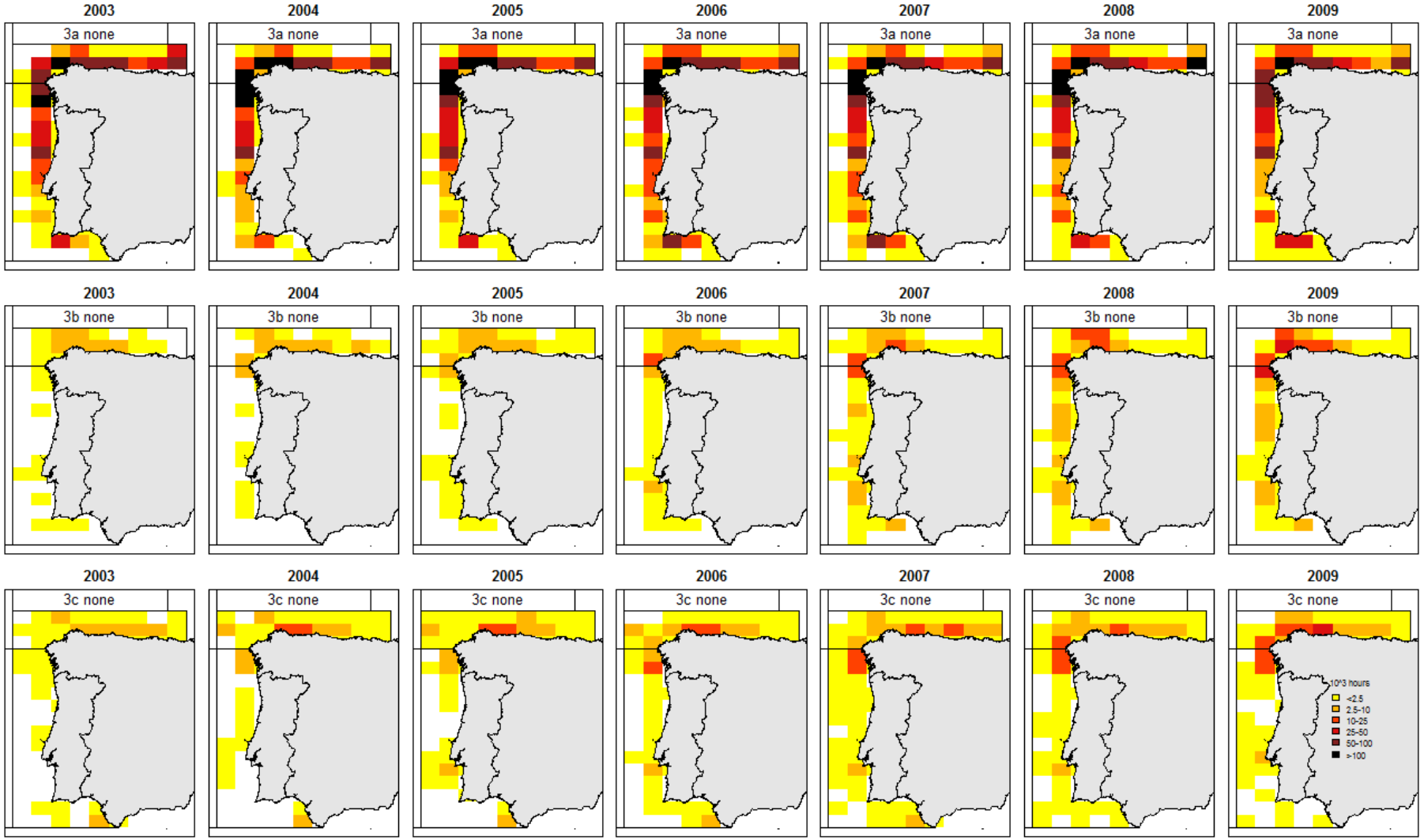


Figure 5.7.1.1.1 (I) Spatial distribution of effort by gear type with no special conditions for the period 2003-2009. By mistake all Spanish effort under category "3c IIB52ab" was included in "3c none".

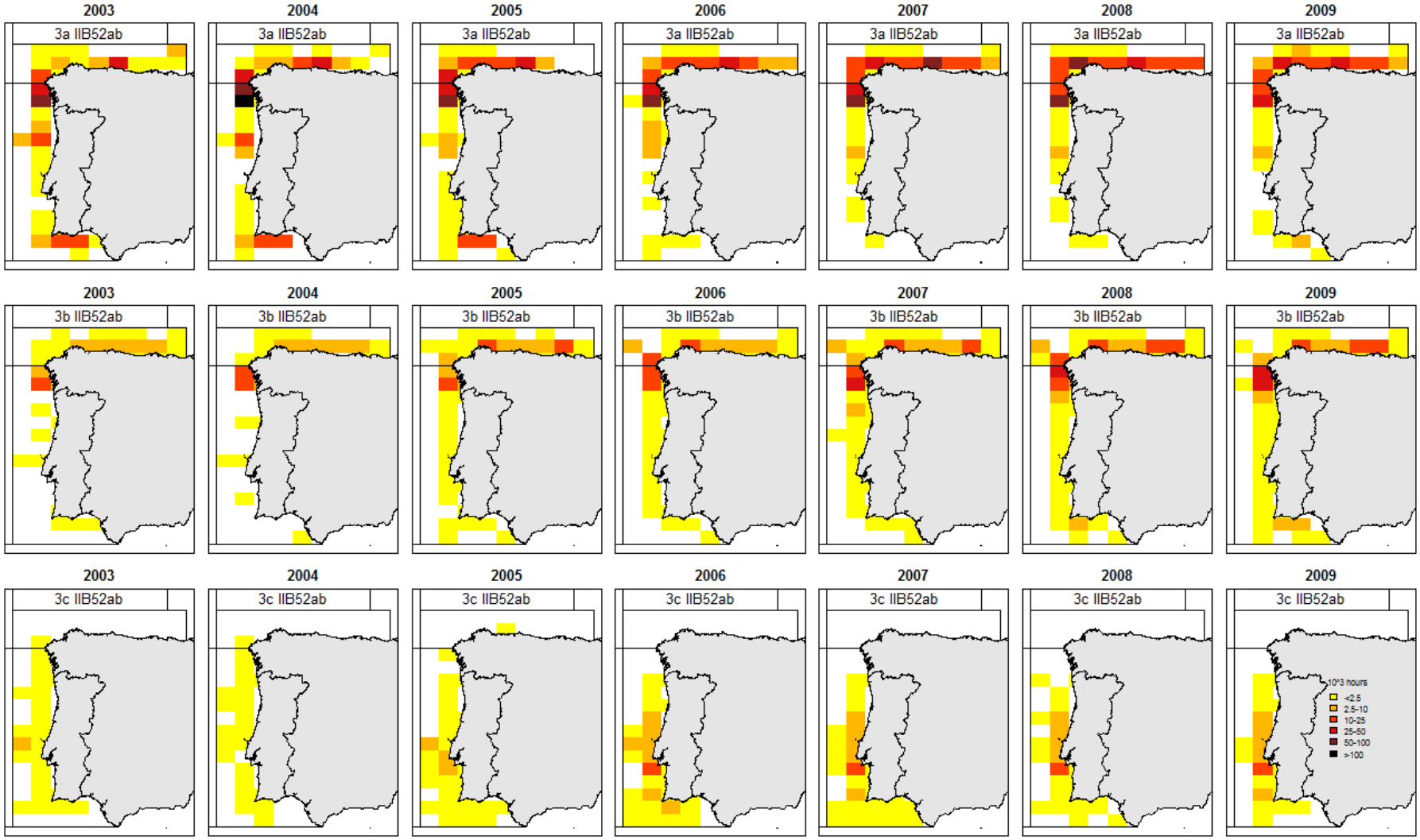


Figure 5.7.1.1.1 (II) Spatial distribution of effort by gear type with special conditions for the period 2003-2009. By mistake all Spanish effort under category "3c IIB52ab" was included in "3c none" in Figure 5.7.1.1.1(II), due to misallocation.

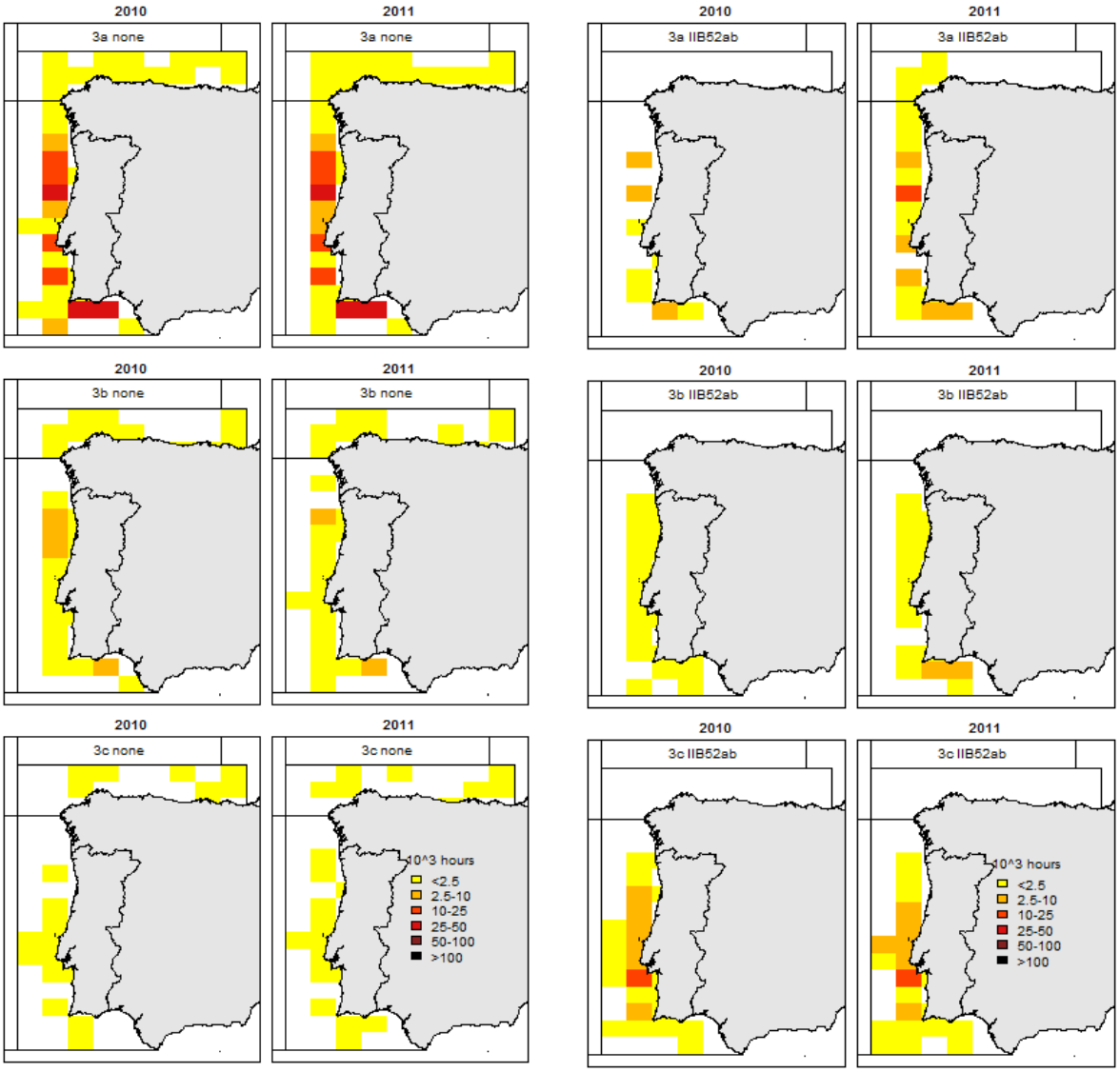


Figure 5.7.1.1.2 Spatial distribution of effort by gear and specon types in the period 2010-2011 for the Portuguese fleets. No Spanish data were available for these years.

5.7.2 ToR 1.b Catches (landings and discards) of hake and Norway lobster in weight and numbers at age by Member State and fisheries

Portugal provided data on 2002-2011 landings. As in 2011, in 2012 Spain did not provide data, so the Spanish 2002-2009 data used in this report are the same reported last two years. Member States (MS) did not provide hake information by age because there are relevant doubts about this species ageing (ICES, 2009, 2010a). For *Nephrops* there is not a standardized ageing methodology. Length composition of the catches presented to ICES assessment working groups are available for the DCF metiers, but could not be uploaded to the database because the database uses only age compositions.

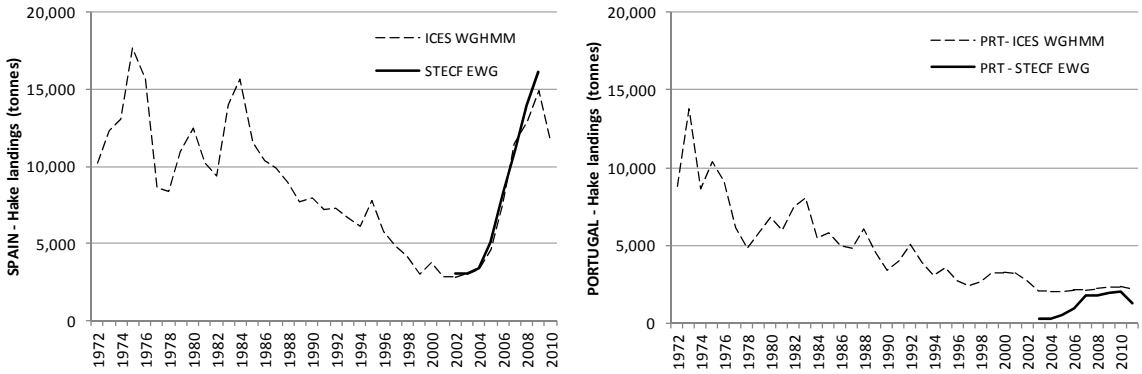


Figure 5.7.2.1 Comparison of the hake landings (tonnes) presented to ICES WGHMM and STECF EWG data base (this report) (left: Spain, right: Portugal).

Hake landings provided to the EWG database (this report) by Spain (2002-2009) come from logbooks and are 5% higher than the landings reported to ICES WGHMM 2011 (ICES, 2011), that come from several sources of data (Figure 5.7.2.1, left). Hake landings provided to the EWG database (this report) by Portugal (2003-2011) come from logbooks for most of the vessels and from sales records for vessels under 10 metres. Portuguese landings until 2007 are lower than the landings reported to WGHMM 2012 (ICES, 2012), which come from landings records (Figure 5.7.2.1, right). This difference is probably due to the low number of logbook records inserted in the database in those years.

Both countries provided discard information for hake. However, the Spanish discards data showed unrealistic values for the years before 2009 (see "Data Quality" section). To overcome this problem, discard ratios from WGHMM 2010 report (ICES, 2010b) have been applied to compute the Spanish hake's discard time series. In what concerns the Portuguese data, discards data included in the EWG database until 2010 were assigned proportionally to trawl landings, the only gear sampled. However, the data call grouping is not consistent with the DCF metiers sampled and the discards from Portugal were removed from the database. Data on annual discards by species and DCF metier were provided and included in tables and figures in aggregated form.

Taking into consideration on board sampling program and the DCF metiers, the annual discard estimates have high coefficients of variation. The assignment of these data to the data call disaggregated metiers when the metiers do not perfectly match is not possible without making strong assumptions different from those used in the established raising procedures and could lead to completely different total discard estimates.

The contributions of the individual derogations to the overall landings can be taken from Table 5.7.2.1. The following sections represent the landings and discards by derogation in weight for hake (HKE) and *Nephrops* (NEP).

Table 5.7.2.1 (I) Hake and *Nephrops* landings (t) and discards (t) by species and derogation, 2003-2011. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "NONE" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	HKE	2003	3A	IIB72AB	165	--
IIB	8C-9A	HKE	2003	3A	NONE	2070	--
IIB	8C-9A	HKE	2003	3B	IIB72AB	85	--
IIB	8C-9A	HKE	2003	3B	NONE	545	--
IIB	8C-9A	HKE	2003	3C	IIB72AB	22	--
IIB	8C-9A	HKE	2003	3C	NONE	115	--
IIB	8C-9A	HKE	2003	3T	NONE	13	--
IIB	8C-9A	HKE	2003	NONE	NONE	407	--
IIB	8C-9A	HKE	2004	3A	IIB72AB	186	29
IIB	8C-9A	HKE	2004	3A	NONE	2311	344
IIB	8C-9A	HKE	2004	3B	IIB72AB	139	--
IIB	8C-9A	HKE	2004	3B	NONE	623	--
IIB	8C-9A	HKE	2004	3C	IIB72AB	63	--
IIB	8C-9A	HKE	2004	3C	NONE	83	--
IIB	8C-9A	HKE	2004	3T	NONE	20	--
IIB	8C-9A	HKE	2004	NONE	NONE	229	1
IIB	8C-9A	HKE	2005	3A	IIB72AB	398	189
IIB	8C-9A	HKE	2005	3A	NONE	3371	958
IIB	8C-9A	HKE	2005	3B	IIB72AB	224	--
IIB	8C-9A	HKE	2005	3B	NONE	1040	--
IIB	8C-9A	HKE	2005	3C	IIB72AB	134	--
IIB	8C-9A	HKE	2005	3C	NONE	142	--
IIB	8C-9A	HKE	2005	3T	NONE	77	--
IIB	8C-9A	HKE	2005	NONE	NONE	287	2
IIB	8C-9A	HKE	2006	3A	IIB72AB	1301	504
IIB	8C-9A	HKE	2006	3A	NONE	5584	2331
IIB	8C-9A	HKE	2006	3B	IIB72AB	427	--
IIB	8C-9A	HKE	2006	3B	NONE	1231	--
IIB	8C-9A	HKE	2006	3C	IIB72AB	243	--
IIB	8C-9A	HKE	2006	3C	NONE	157	--
IIB	8C-9A	HKE	2006	3T	NONE	94	--
IIB	8C-9A	HKE	2006	NONE	NONE	310	22
IIB	8C-9A	HKE	2007	3A	IIB72AB	1534	233
IIB	8C-9A	HKE	2007	3A	NONE	6843	2316
IIB	8C-9A	HKE	2007	3B	IIB72AB	704	--
IIB	8C-9A	HKE	2007	3B	NONE	2324	--
IIB	8C-9A	HKE	2007	3C	IIB72AB	414	--
IIB	8C-9A	HKE	2007	3C	NONE	210	--
IIB	8C-9A	HKE	2007	3T	NONE	266	--
IIB	8C-9A	HKE	2007	NONE	NONE	455	14
IIB	8C-9A	HKE	2008	3A	IIB72AB	1873	312
IIB	8C-9A	HKE	2008	3A	NONE	7686	1994
IIB	8C-9A	HKE	2008	3B	IIB72AB	873	--
IIB	8C-9A	HKE	2008	3B	NONE	3407	--
IIB	8C-9A	HKE	2008	3C	IIB72AB	1008	--
IIB	8C-9A	HKE	2008	3C	NONE	538	--
IIB	8C-9A	HKE	2008	3T	NONE	233	--
IIB	8C-9A	HKE	2008	NONE	NONE	589	21
IIB	8C-9A	HKE	2009	3A	IIB72AB	2295	471

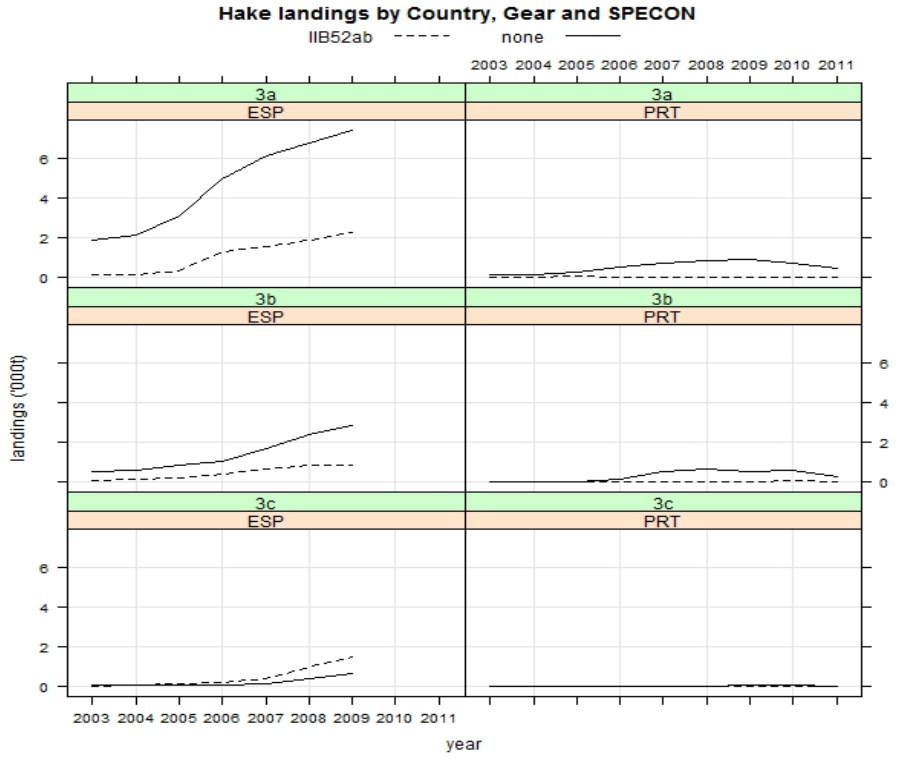
Table 5.7.2.1 (II) Hake and *Nephrops* landings (t) and discards (t) by species and derogation, 2003-2011. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "none" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	HKE	2009	3A	NONE	8313	3439
IIB	8C-9A	HKE	2009	3B	IIB72AB	937	--
IIB	8C-9A	HKE	2009	3B	NONE	3698	--
IIB	8C-9A	HKE	2009	3C	IIB72AB	1565	--
IIB	8C-9A	HKE	2009	3C	NONE	864	--
IIB	8C-9A	HKE	2009	3T	NONE	358	--
IIB	8C-9A	HKE	2009	NONE	NONE	524	25
IIB	8C-9A	HKE	2010	3A	IIB72AB	8	6
IIB	8C-9A	HKE	2010	3A	NONE	752	579
IIB	8C-9A	HKE	2010	3B	IIB72AB	73	--
IIB	8C-9A	HKE	2010	3B	NONE	829	--
IIB	8C-9A	HKE	2010	3C	IIB72AB	33	--
IIB	8C-9A	HKE	2010	3C	NONE	182	--
IIB	8C-9A	HKE	2010	3T	NONE	212	--
IIB	8C-9A	HKE	2010	NONE	NONE	5	--
IIB	8C-9A	HKE	2011	3A	IIB72AB	19	28
IIB	8C-9A	HKE	2011	3A	NONE	494	717
IIB	8C-9A	HKE	2011	3B	IIB72AB	37	--
IIB	8C-9A	HKE	2011	3B	NONE	376	--
IIB	8C-9A	HKE	2011	3C	IIB72AB	37	--
IIB	8C-9A	HKE	2011	3C	NONE	109	--
IIB	8C-9A	HKE	2011	3T	NONE	335	--
IIB	8C-9A	HKE	2011	NONE	NONE	22	--
IIB	8C-9A	NEP	2003	3A	IIB72AB	128	0
IIB	8C-9A	NEP	2003	3A	NONE	210	0
IIB	8C-9A	NEP	2003	3B	IIB72AB	0	0
IIB	8C-9A	NEP	2003	3B	NONE	0	0
IIB	8C-9A	NEP	2003	3C	IIB72AB	0	0
IIB	8C-9A	NEP	2003	3C	NONE	0	0
IIB	8C-9A	NEP	2003	3T	NONE	0	0
IIB	8C-9A	NEP	2003	NONE	NONE	8	0
IIB	8C-9A	NEP	2004	3A	IIB72AB	107	0
IIB	8C-9A	NEP	2004	3A	NONE	169	0
IIB	8C-9A	NEP	2004	3B	IIB72AB	0	0
IIB	8C-9A	NEP	2004	3B	NONE	0	0
IIB	8C-9A	NEP	2004	3C	IIB72AB	0	0
IIB	8C-9A	NEP	2004	3C	NONE	0	0
IIB	8C-9A	NEP	2004	3T	NONE	1	0
IIB	8C-9A	NEP	2004	NONE	NONE	6	0
IIB	8C-9A	NEP	2005	3A	IIB72AB	139	0
IIB	8C-9A	NEP	2005	3A	NONE	156	0
IIB	8C-9A	NEP	2005	3B	IIB72AB	0	0
IIB	8C-9A	NEP	2005	3B	NONE	1	0
IIB	8C-9A	NEP	2005	3C	IIB72AB	0	0
IIB	8C-9A	NEP	2005	3C	NONE	0	0
IIB	8C-9A	NEP	2005	3T	NONE	1	0
IIB	8C-9A	NEP	2005	NONE	NONE	15	0
IIB	8C-9A	NEP	2006	3A	IIB72AB	17	0
IIB	8C-9A	NEP	2006	3A	NONE	317	0

Table 5.7.2.1 (III) Hake and *Nephrops* landings (t) and discards (t) by species and derogation, 2003-2011. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "none" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	NEP	2006	3B	IIB72AB	0	0
IIB	8C-9A	NEP	2006	3B	NONE	1	0
IIB	8C-9A	NEP	2006	3C	IIB72AB	0	0
IIB	8C-9A	NEP	2006	3C	NONE	0	0
IIB	8C-9A	NEP	2006	3T	NONE	2	0
IIB	8C-9A	NEP	2006	NONE	NONE	6	0
IIB	8C-9A	NEP	2007	3A	IIB72AB	21	0
IIB	8C-9A	NEP	2007	3A	NONE	386	0
IIB	8C-9A	NEP	2007	3B	IIB72AB	1	0
IIB	8C-9A	NEP	2007	3B	NONE	1	0
IIB	8C-9A	NEP	2007	3C	IIB72AB	0	0
IIB	8C-9A	NEP	2007	3C	NONE	0	0
IIB	8C-9A	NEP	2007	3T	NONE	1	0
IIB	8C-9A	NEP	2007	NONE	NONE	9	0
IIB	8C-9A	NEP	2008	3A	IIB72AB	21	0
IIB	8C-9A	NEP	2008	3A	NONE	294	0
IIB	8C-9A	NEP	2008	3B	IIB72AB	0	0
IIB	8C-9A	NEP	2008	3B	NONE	0	0
IIB	8C-9A	NEP	2008	3C	IIB72AB	0	0
IIB	8C-9A	NEP	2008	3C	NONE	0	0
IIB	8C-9A	NEP	2008	3T	NONE	1	0
IIB	8C-9A	NEP	2008	NONE	NONE	14	0
IIB	8C-9A	NEP	2009	3A	IIB72AB	18	0
IIB	8C-9A	NEP	2009	3A	NONE	197	0
IIB	8C-9A	NEP	2009	3B	IIB72AB	0	0
IIB	8C-9A	NEP	2009	3B	NONE	0	0
IIB	8C-9A	NEP	2009	3C	IIB72AB	0	0
IIB	8C-9A	NEP	2009	3C	NONE	0	0
IIB	8C-9A	NEP	2009	3T	NONE	1	0
IIB	8C-9A	NEP	2009	NONE	NONE	11	0
IIB	8C-9A	NEP	2010	3A	IIB72AB	2	0
IIB	8C-9A	NEP	2010	3A	NONE	139	0
IIB	8C-9A	NEP	2010	3B	IIB72AB	0	0
IIB	8C-9A	NEP	2010	3B	NONE	0	0
IIB	8C-9A	NEP	2010	3C	IIB72AB	0	0
IIB	8C-9A	NEP	2010	3C	NONE	0	0
IIB	8C-9A	NEP	2010	3T	NONE	1	0
IIB	8C-9A	NEP	2010	NONE	NONE	9	0
IIB	8C-9A	NEP	2011	3A	IIB72AB	9	0
IIB	8C-9A	NEP	2011	3A	NONE	114	0
IIB	8C-9A	NEP	2011	3B	IIB72AB	0	0
IIB	8C-9A	NEP	2011	3B	NONE	0	0
IIB	8C-9A	NEP	2011	3C	IIB72AB	0	0
IIB	8C-9A	NEP	2011	3C	NONE	0	0
IIB	8C-9A	NEP	2011	3T	NONE	0	0
IIB	8C-9A	NEP	2011	NONE	NONE	15	0

Figure 5.7.2.2 shows landings of hake and *Nephrops* by Member State and derogation.



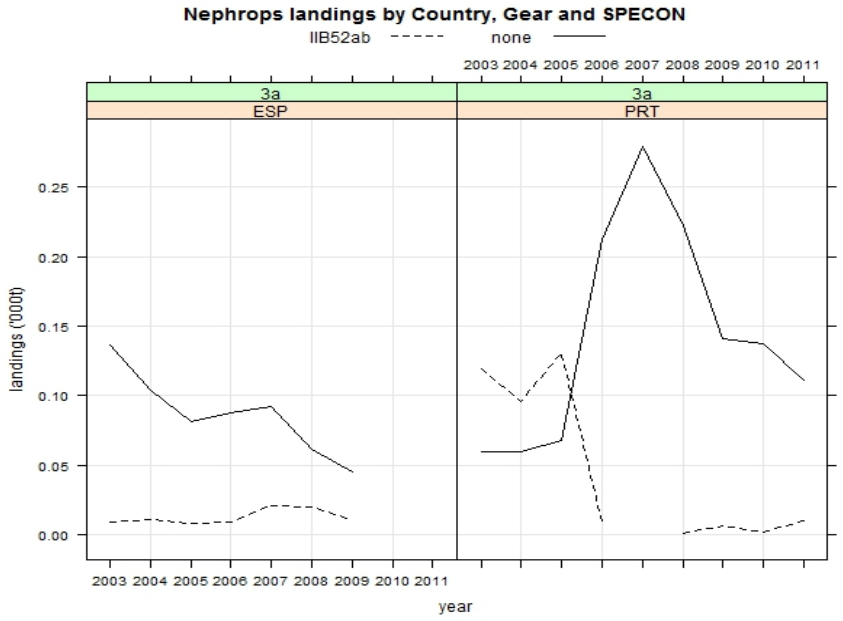


Fig. 5.7.2.2 Trends in landings of hake and *Nephrops* by Member State, regulated gear and specon.

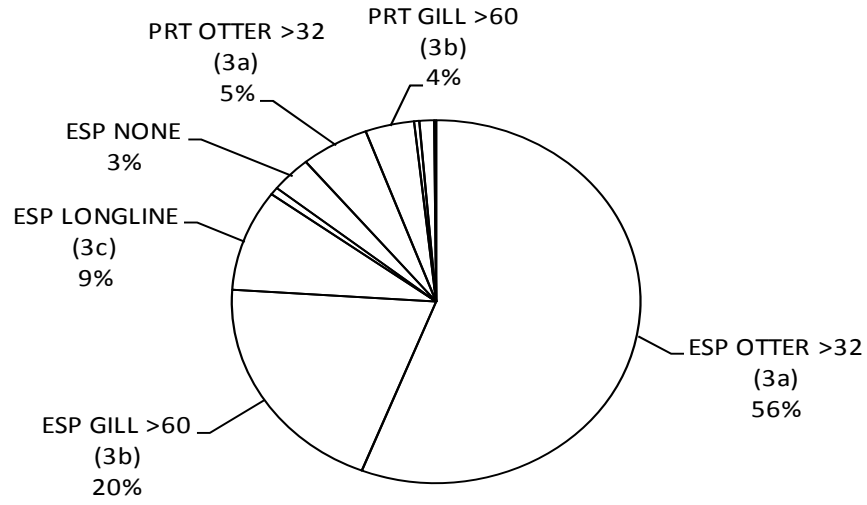


Figure 5.7.2.3 Average 2007-2009 hake landings by fleet in 8c & 9a (excluding Cadiz) (ESP: Spain, PRT: Portugal).

Figure 5.7.2.3 shows the average 2007-2009 hake landings by fleet. The Spanish regulated trawlers (3a) land 56% of hake, followed by Spanish regulated gillnetters (3b, 20%) and Spanish regulated longliners (3c, 9%). Spanish regulated trawlers under effort restrictions (ESP-3a-specon none) land 78% of the Spanish total trawl hake landings.

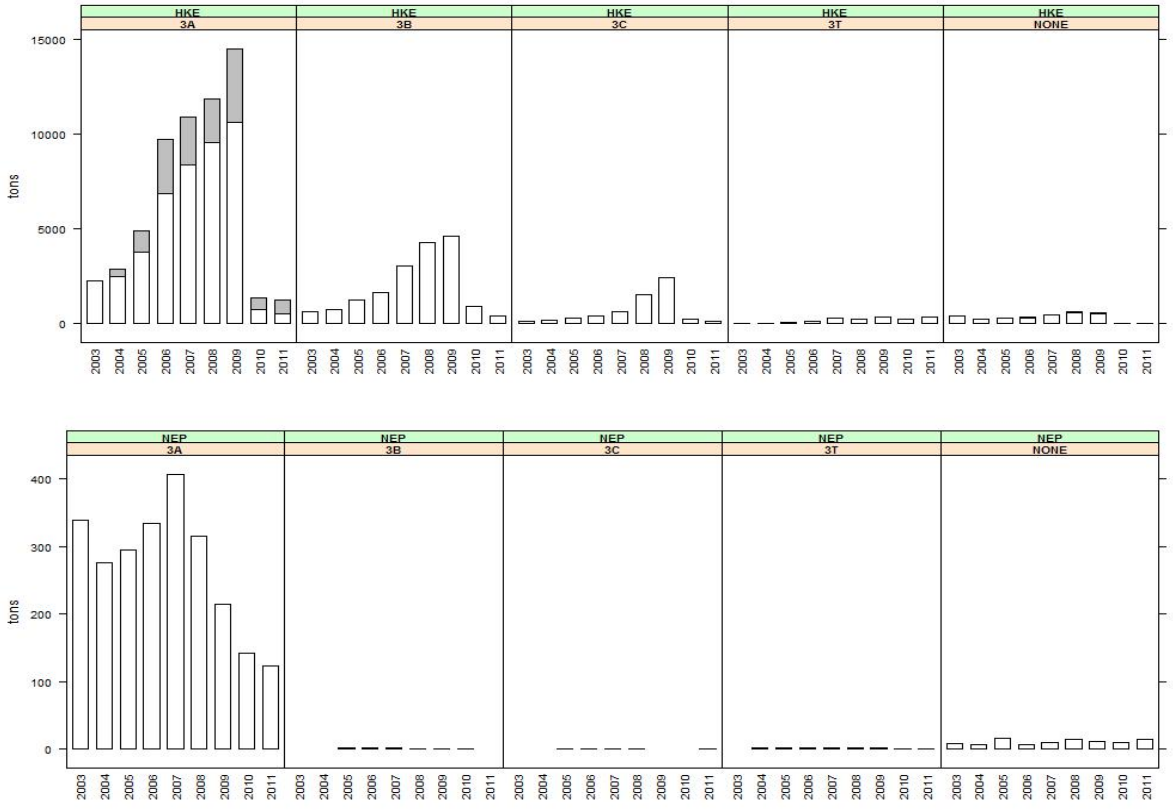


Figure 5.7.2.4 Hake and Norway lobster catches by gear for the years 2003-2011 (discards presented in grey colour), Spanish and Portuguese data together. Spanish data for 2010-2011 not available.

The data given in the Table 5.7.2.1 form the basis of the Figure 5.7.2.4 displaying the relative catch compositions by gear for the years 2003-2011. The lack of grey bars (representing discards) further indicates that either data were not provided or there were no discards. The very low catches in 2010 and 2011 are related to the lack of information from Spanish fleets. Portugal did not assign the discards to the data call reported metiers because the DCF metiers are less disaggregated and there is no perfect match between the two classifications. However, discard data for hake in trawl metiers were made available and were included in the final tables and figures.

Most of hake catch comes from regulated trawlers (3A, Figure 5.7.2.4). Gillnets and longlines also show a higher percentage of hake on their catch composition. In what concerns Norway lobster, the catches come almost exclusively from trawl.

5.7.3 ToR 1.c Catches (landings and discards) of species other than hake and Norway lobster, in particular anglerfish, in weight and numbers at age by Member State and fisheries

Portugal provided data on 2002-2011 landings. Spain did not provide any data for the last two years, so the Spanish 2002-2009 data used in this report are the same reported in 2010. Numbers at age were submitted by Spain in 2010 for anchovy, blue whiting and mackerel for the period 2003-2008. Portugal did not provide age information.

Table 5.7.3.1 (I) Landings (t) and discards (t) by species and derogation, 2003-2009. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "none" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	ANF	2003	3A	IIB72AB	191	--
IIB	8C-9A	ANF	2003	3A	NONE	1338	--
IIB	8C-9A	ANF	2003	3B	IIB72AB	196	--
IIB	8C-9A	ANF	2003	3B	NONE	30	--
IIB	8C-9A	ANF	2003	3C	IIB72AB	0	--
IIB	8C-9A	ANF	2003	3C	NONE	0	--
IIB	8C-9A	ANF	2003	3T	NONE	74	--
IIB	8C-9A	ANF	2003	NONE	NONE	219	--
IIB	8C-9A	ANF	2004	3A	IIB72AB	199	--
IIB	8C-9A	ANF	2004	3A	NONE	1418	--
IIB	8C-9A	ANF	2004	3B	IIB72AB	280	--
IIB	8C-9A	ANF	2004	3B	NONE	243	--
IIB	8C-9A	ANF	2004	3C	IIB72AB	1	--
IIB	8C-9A	ANF	2004	3C	NONE	4	--
IIB	8C-9A	ANF	2004	3T	NONE	182	--
IIB	8C-9A	ANF	2004	NONE	NONE	257	--
IIB	8C-9A	ANF	2005	3A	IIB72AB	249	--
IIB	8C-9A	ANF	2005	3A	NONE	1668	--
IIB	8C-9A	ANF	2005	3B	IIB72AB	507	--
IIB	8C-9A	ANF	2005	3B	NONE	451	--
IIB	8C-9A	ANF	2005	3C	IIB72AB	1	--
IIB	8C-9A	ANF	2005	3C	NONE	0	--
IIB	8C-9A	ANF	2005	3T	NONE	214	--
IIB	8C-9A	ANF	2005	NONE	NONE	360	--
IIB	8C-9A	ANF	2006	3A	IIB72AB	274	--
IIB	8C-9A	ANF	2006	3A	NONE	1735	--
IIB	8C-9A	ANF	2006	3B	IIB72AB	529	--
IIB	8C-9A	ANF	2006	3B	NONE	603	--
IIB	8C-9A	ANF	2006	3C	IIB72AB	4	--
IIB	8C-9A	ANF	2006	3C	NONE	1	--
IIB	8C-9A	ANF	2006	3T	NONE	182	--
IIB	8C-9A	ANF	2006	NONE	NONE	435	--
IIB	8C-9A	ANF	2007	3A	IIB72AB	317	--
IIB	8C-9A	ANF	2007	3A	NONE	1652	--
IIB	8C-9A	ANF	2007	3B	IIB72AB	368	--
IIB	8C-9A	ANF	2007	3B	NONE	417	--
IIB	8C-9A	ANF	2007	3C	IIB72AB	3	--
IIB	8C-9A	ANF	2007	3C	NONE	15	--
IIB	8C-9A	ANF	2007	3T	NONE	241	--
IIB	8C-9A	ANF	2007	NONE	NONE	280	--
IIB	8C-9A	ANF	2008	3A	IIB72AB	332	--
IIB	8C-9A	ANF	2008	3A	NONE	1319	--
IIB	8C-9A	ANF	2008	3B	IIB72AB	401	--
IIB	8C-9A	ANF	2008	3B	NONE	399	--
IIB	8C-9A	ANF	2008	3C	IIB72AB	2	--
IIB	8C-9A	ANF	2008	3C	NONE	4	--
IIB	8C-9A	ANF	2008	3T	NONE	180	--
IIB	8C-9A	ANF	2008	NONE	NONE	217	--
IIB	8C-9A	ANF	2009	3A	IIB72AB	281	--

Tab. 5.7.3.1 (II) Landings (t) and discards (t) by species and derogation, 2003-2009. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "none" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	ANF	2009	3A	NONE	1000	--
IIB	8C-9A	ANF	2009	3B	IIB72AB	322	--
IIB	8C-9A	ANF	2009	3B	NONE	420	--
IIB	8C-9A	ANF	2009	3C	IIB72AB	1	--
IIB	8C-9A	ANF	2009	3C	NONE	1	--
IIB	8C-9A	ANF	2009	3T	NONE	234	--
IIB	8C-9A	ANF	2009	NONE	NONE	255	--
IIB	8C-9A	ANF	2010	3A	IIB72AB	9	--
IIB	8C-9A	ANF	2010	3A	NONE	87	--
IIB	8C-9A	ANF	2010	3B	IIB72AB	18	--
IIB	8C-9A	ANF	2010	3B	NONE	6	--
IIB	8C-9A	ANF	2010	3C	IIB72AB	0	--
IIB	8C-9A	ANF	2010	3C	NONE	0	--
IIB	8C-9A	ANF	2010	3T	NONE	84	--
IIB	8C-9A	ANF	2010	NONE	NONE	3	--
IIB	8C-9A	ANF	2011	3A	IIB72AB	17	--
IIB	8C-9A	ANF	2011	3A	NONE	174	--
IIB	8C-9A	ANF	2011	3B	IIB72AB	11	--
IIB	8C-9A	ANF	2011	3B	NONE	15	--
IIB	8C-9A	ANF	2011	3C	IIB72AB	1	--
IIB	8C-9A	ANF	2011	3C	NONE	0	--
IIB	8C-9A	ANF	2011	3T	NONE	111	--
IIB	8C-9A	ANF	2011	NONE	NONE	2	--
IIB	8C-9A	JAX	2003	3A	IIB72AB	3656	--
IIB	8C-9A	JAX	2003	3A	NONE	16038	--
IIB	8C-9A	JAX	2003	3B	IIB72AB	42	--
IIB	8C-9A	JAX	2003	3B	NONE	36	--
IIB	8C-9A	JAX	2003	3C	IIB72AB	8	--
IIB	8C-9A	JAX	2003	3C	NONE	2	--
IIB	8C-9A	JAX	2003	3T	NONE	7	--
IIB	8C-9A	JAX	2003	NONE	NONE	14437	--
IIB	8C-9A	JAX	2004	3A	IIB72AB	5541	--
IIB	8C-9A	JAX	2004	3A	NONE	20364	--
IIB	8C-9A	JAX	2004	3B	IIB72AB	87	--
IIB	8C-9A	JAX	2004	3B	NONE	50	--
IIB	8C-9A	JAX	2004	3C	IIB72AB	5	--
IIB	8C-9A	JAX	2004	3C	NONE	3	--
IIB	8C-9A	JAX	2004	3T	NONE	9	--
IIB	8C-9A	JAX	2004	NONE	NONE	15229	--
IIB	8C-9A	JAX	2005	3A	IIB72AB	4104	--
IIB	8C-9A	JAX	2005	3A	NONE	19560	--
IIB	8C-9A	JAX	2005	3B	IIB72AB	79	--
IIB	8C-9A	JAX	2005	3B	NONE	65	--
IIB	8C-9A	JAX	2005	3C	IIB72AB	8	--
IIB	8C-9A	JAX	2005	3C	NONE	3	--
IIB	8C-9A	JAX	2005	3T	NONE	30	--
IIB	8C-9A	JAX	2005	NONE	NONE	13480	--
IIB	8C-9A	JAX	2006	3A	IIB72AB	4601	--
IIB	8C-9A	JAX	2006	3A	NONE	21511	--

Tab. 5.7.3.1 (III) Landings (t) and discards (t) by species and derogation, 2003-2009. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "none" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	JAX	2006	3B	IIB72AB	109	--
IIB	8C-9A	JAX	2006	3B	NONE	63	--
IIB	8C-9A	JAX	2006	3C	IIB72AB	17	--
IIB	8C-9A	JAX	2006	3C	NONE	2	--
IIB	8C-9A	JAX	2006	3T	NONE	48	--
IIB	8C-9A	JAX	2006	NONE	NONE	12782	--
IIB	8C-9A	JAX	2007	3A	IIB72AB	4107	--
IIB	8C-9A	JAX	2007	3A	NONE	22545	--
IIB	8C-9A	JAX	2007	3B	IIB72AB	170	--
IIB	8C-9A	JAX	2007	3B	NONE	238	--
IIB	8C-9A	JAX	2007	3C	IIB72AB	15	--
IIB	8C-9A	JAX	2007	3C	NONE	11	--
IIB	8C-9A	JAX	2007	3T	NONE	208	--
IIB	8C-9A	JAX	2007	NONE	NONE	12574	--
IIB	8C-9A	JAX	2008	3A	IIB72AB	3299	--
IIB	8C-9A	JAX	2008	3A	NONE	20398	--
IIB	8C-9A	JAX	2008	3B	IIB72AB	238	--
IIB	8C-9A	JAX	2008	3B	NONE	504	--
IIB	8C-9A	JAX	2008	3C	IIB72AB	21	--
IIB	8C-9A	JAX	2008	3C	NONE	7	--
IIB	8C-9A	JAX	2008	3T	NONE	133	--
IIB	8C-9A	JAX	2008	NONE	NONE	19391	--
IIB	8C-9A	JAX	2009	3A	IIB72AB	446	--
IIB	8C-9A	JAX	2009	3A	NONE	8474	--
IIB	8C-9A	JAX	2009	3B	IIB72AB	227	--
IIB	8C-9A	JAX	2009	3B	NONE	448	--
IIB	8C-9A	JAX	2009	3C	IIB72AB	13	--
IIB	8C-9A	JAX	2009	3C	NONE	13	--
IIB	8C-9A	JAX	2009	3T	NONE	247	--
IIB	8C-9A	JAX	2009	NONE	NONE	17683	--
IIB	8C-9A	JAX	2010	3A	IIB72AB	301	--
IIB	8C-9A	JAX	2010	3A	NONE	6784	--
IIB	8C-9A	JAX	2010	3B	IIB72AB	32	--
IIB	8C-9A	JAX	2010	3B	NONE	158	--
IIB	8C-9A	JAX	2010	3C	IIB72AB	19	--
IIB	8C-9A	JAX	2010	3C	NONE	2	--
IIB	8C-9A	JAX	2010	3T	NONE	103	--
IIB	8C-9A	JAX	2010	NONE	NONE	30	--
IIB	8C-9A	JAX	2011	3A	IIB72AB	701	--
IIB	8C-9A	JAX	2011	3A	NONE	6612	--
IIB	8C-9A	JAX	2011	3B	IIB72AB	36	--
IIB	8C-9A	JAX	2011	3B	NONE	156	--
IIB	8C-9A	JAX	2011	3C	IIB72AB	7	--
IIB	8C-9A	JAX	2011	3C	NONE	4	--
IIB	8C-9A	JAX	2011	3T	NONE	179	--
IIB	8C-9A	JAX	2011	NONE	NONE	61	--
IIB	8C-9A	MAC	2003	3A	IIB72AB	2772	--
IIB	8C-9A	MAC	2003	3A	NONE	8341	--
IIB	8C-9A	MAC	2003	3B	IIB72AB	7	--

Tab. 5.7.3.1 (IV) Landings (t) and discards (t) by species and derogation, 2003-2009. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "none" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	MAC	2003	3B	NONE	48	--
IIB	8C-9A	MAC	2003	3C	IIB72AB	13	--
IIB	8C-9A	MAC	2003	3C	NONE	1	--
IIB	8C-9A	MAC	2003	3T	NONE	22	--
IIB	8C-9A	MAC	2003	NONE	NONE	6643	--
IIB	8C-9A	MAC	2004	3A	IIB72AB	4651	--
IIB	8C-9A	MAC	2004	3A	NONE	11796	--
IIB	8C-9A	MAC	2004	3B	IIB72AB	38	--
IIB	8C-9A	MAC	2004	3B	NONE	74	--
IIB	8C-9A	MAC	2004	3C	IIB72AB	71	--
IIB	8C-9A	MAC	2004	3C	NONE	6	--
IIB	8C-9A	MAC	2004	3T	NONE	30	--
IIB	8C-9A	MAC	2004	NONE	NONE	12986	--
IIB	8C-9A	MAC	2005	3A	IIB72AB	5401	--
IIB	8C-9A	MAC	2005	3A	NONE	17191	--
IIB	8C-9A	MAC	2005	3B	IIB72AB	155	--
IIB	8C-9A	MAC	2005	3B	NONE	59	--
IIB	8C-9A	MAC	2005	3C	IIB72AB	145	--
IIB	8C-9A	MAC	2005	3C	NONE	28	--
IIB	8C-9A	MAC	2005	3T	NONE	31	--
IIB	8C-9A	MAC	2005	NONE	NONE	20792	--
IIB	8C-9A	MAC	2006	3A	IIB72AB	5555	--
IIB	8C-9A	MAC	2006	3A	NONE	17214	--
IIB	8C-9A	MAC	2006	3B	IIB72AB	54	--
IIB	8C-9A	MAC	2006	3B	NONE	40	--
IIB	8C-9A	MAC	2006	3C	IIB72AB	77	--
IIB	8C-9A	MAC	2006	3C	NONE	3	--
IIB	8C-9A	MAC	2006	3T	NONE	21	--
IIB	8C-9A	MAC	2006	NONE	NONE	25832	--
IIB	8C-9A	MAC	2007	3A	IIB72AB	4348	--
IIB	8C-9A	MAC	2007	3A	NONE	12529	--
IIB	8C-9A	MAC	2007	3B	IIB72AB	42	--
IIB	8C-9A	MAC	2007	3B	NONE	39	--
IIB	8C-9A	MAC	2007	3C	IIB72AB	88	--
IIB	8C-9A	MAC	2007	3C	NONE	53	--
IIB	8C-9A	MAC	2007	3T	NONE	43	--
IIB	8C-9A	MAC	2007	NONE	NONE	40726	--
IIB	8C-9A	MAC	2008	3A	IIB72AB	3406	--
IIB	8C-9A	MAC	2008	3A	NONE	15505	--
IIB	8C-9A	MAC	2008	3B	IIB72AB	84	--
IIB	8C-9A	MAC	2008	3B	NONE	90	--
IIB	8C-9A	MAC	2008	3C	IIB72AB	66	--
IIB	8C-9A	MAC	2008	3C	NONE	38	--
IIB	8C-9A	MAC	2008	3T	NONE	61	--
IIB	8C-9A	MAC	2008	NONE	NONE	37101	--
IIB	8C-9A	MAC	2009	3A	IIB72AB	5782	--
IIB	8C-9A	MAC	2009	3A	NONE	19111	--
IIB	8C-9A	MAC	2009	3B	IIB72AB	63	--
IIB	8C-9A	MAC	2009	3B	NONE	56	--

Tab. 5.7.3.1 (V) Landings (t) and discards (t) by species and derogation, 2003-2009. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "none" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	MAC	2009	3C	IIB72AB	179	--
IIB	8C-9A	MAC	2009	3C	NONE	80	--
IIB	8C-9A	MAC	2009	3T	NONE	68	--
IIB	8C-9A	MAC	2009	NONE	NONE	64517	--
IIB	8C-9A	MAC	2010	3A	IIB72AB	12	--
IIB	8C-9A	MAC	2010	3A	NONE	1969	--
IIB	8C-9A	MAC	2010	3B	IIB72AB	5	--
IIB	8C-9A	MAC	2010	3B	NONE	4	--
IIB	8C-9A	MAC	2010	3C	IIB72AB	0	--
IIB	8C-9A	MAC	2010	3C	NONE	0	--
IIB	8C-9A	MAC	2010	3T	NONE	18	--
IIB	8C-9A	MAC	2010	NONE	NONE	281	--
IIB	8C-9A	MAC	2011	3A	IIB72AB	48	--
IIB	8C-9A	MAC	2011	3A	NONE	2721	--
IIB	8C-9A	MAC	2011	3B	IIB72AB	6	--
IIB	8C-9A	MAC	2011	3B	NONE	11	--
IIB	8C-9A	MAC	2011	3C	IIB72AB	0	--
IIB	8C-9A	MAC	2011	3C	NONE	1	--
IIB	8C-9A	MAC	2011	3T	NONE	14	--
IIB	8C-9A	MAC	2011	NONE	NONE	31	--
IIB	8C-9A	RAJ	2003	3A	IIB72AB	0	--
IIB	8C-9A	RAJ	2003	3A	NONE	17	--
IIB	8C-9A	RAJ	2003	3B	IIB72AB	16	--
IIB	8C-9A	RAJ	2003	3B	NONE	1	--
IIB	8C-9A	RAJ	2003	3C	IIB72AB	20	--
IIB	8C-9A	RAJ	2003	3C	NONE	1	--
IIB	8C-9A	RAJ	2003	3T	NONE	38	--
IIB	8C-9A	RAJ	2003	NONE	NONE	28	--
IIB	8C-9A	RAJ	2004	3A	IIB72AB	1	--
IIB	8C-9A	RAJ	2004	3A	NONE	31	--
IIB	8C-9A	RAJ	2004	3B	IIB72AB	9	--
IIB	8C-9A	RAJ	2004	3B	NONE	5	--
IIB	8C-9A	RAJ	2004	3C	IIB72AB	12	--
IIB	8C-9A	RAJ	2004	3C	NONE	3	--
IIB	8C-9A	RAJ	2004	3T	NONE	69	--
IIB	8C-9A	RAJ	2004	NONE	NONE	18	--
IIB	8C-9A	RAJ	2005	3A	IIB72AB	4	--
IIB	8C-9A	RAJ	2005	3A	NONE	35	--
IIB	8C-9A	RAJ	2005	3B	IIB72AB	11	--
IIB	8C-9A	RAJ	2005	3B	NONE	9	--
IIB	8C-9A	RAJ	2005	3C	IIB72AB	14	--
IIB	8C-9A	RAJ	2005	3C	NONE	2	--
IIB	8C-9A	RAJ	2005	3T	NONE	79	--
IIB	8C-9A	RAJ	2005	NONE	NONE	28	--
IIB	8C-9A	RAJ	2006	3A	IIB72AB	5	--
IIB	8C-9A	RAJ	2006	3A	NONE	74	--
IIB	8C-9A	RAJ	2006	3B	IIB72AB	15	--
IIB	8C-9A	RAJ	2006	3B	NONE	4	--
IIB	8C-9A	RAJ	2006	3C	IIB72AB	17	--

Tab. 5.7.3.1 (VI) Landings (t) and discards (t) by species and derogation, 2003-2009. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "none" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	RAJ	2006	3C	NONE	3	--
IIB	8C-9A	RAJ	2006	3T	NONE	102	--
IIB	8C-9A	RAJ	2006	NONE	NONE	16	--
IIB	8C-9A	RAJ	2007	3A	IIB72AB	27	--
IIB	8C-9A	RAJ	2007	3A	NONE	133	--
IIB	8C-9A	RAJ	2007	3B	IIB72AB	19	--
IIB	8C-9A	RAJ	2007	3B	NONE	13	--
IIB	8C-9A	RAJ	2007	3C	IIB72AB	33	--
IIB	8C-9A	RAJ	2007	3C	NONE	8	--
IIB	8C-9A	RAJ	2007	3T	NONE	194	--
IIB	8C-9A	RAJ	2007	NONE	NONE	18	--
IIB	8C-9A	RAJ	2008	3A	IIB72AB	29	--
IIB	8C-9A	RAJ	2008	3A	NONE	187	--
IIB	8C-9A	RAJ	2008	3B	IIB72AB	21	--
IIB	8C-9A	RAJ	2008	3B	NONE	6	--
IIB	8C-9A	RAJ	2008	3C	IIB72AB	189	--
IIB	8C-9A	RAJ	2008	3C	NONE	7	--
IIB	8C-9A	RAJ	2008	3T	NONE	165	--
IIB	8C-9A	RAJ	2008	NONE	NONE	26	--
IIB	8C-9A	RAJ	2009	3A	IIB72AB	33	--
IIB	8C-9A	RAJ	2009	3A	NONE	360	--
IIB	8C-9A	RAJ	2009	3B	IIB72AB	20	--
IIB	8C-9A	RAJ	2009	3B	NONE	10	--
IIB	8C-9A	RAJ	2009	3C	IIB72AB	53	--
IIB	8C-9A	RAJ	2009	3C	NONE	4	--
IIB	8C-9A	RAJ	2009	3T	NONE	241	--
IIB	8C-9A	RAJ	2009	NONE	NONE	41	--
IIB	8C-9A	RAJ	2010	3A	IIB72AB	21	--
IIB	8C-9A	RAJ	2010	3A	NONE	277	--
IIB	8C-9A	RAJ	2010	3B	IIB72AB	10	--
IIB	8C-9A	RAJ	2010	3B	NONE	9	--
IIB	8C-9A	RAJ	2010	3C	IIB72AB	20	--
IIB	8C-9A	RAJ	2010	3C	NONE	6	--
IIB	8C-9A	RAJ	2010	3T	NONE	217	--
IIB	8C-9A	RAJ	2010	NONE	NONE	8	--
IIB	8C-9A	RAJ	2011	3A	IIB72AB	59	--
IIB	8C-9A	RAJ	2011	3A	NONE	308	--
IIB	8C-9A	RAJ	2011	3B	IIB72AB	13	--
IIB	8C-9A	RAJ	2011	3B	NONE	4	--
IIB	8C-9A	RAJ	2011	3C	IIB72AB	34	--
IIB	8C-9A	RAJ	2011	3C	NONE	3	--
IIB	8C-9A	RAJ	2011	3T	NONE	206	--
IIB	8C-9A	RAJ	2011	NONE	NONE	8	--
IIB	8C-9A	WHB	2003	3A	IIB72AB	4106	--
IIB	8C-9A	WHB	2003	3A	NONE	17112	--
IIB	8C-9A	WHB	2003	3B	IIB72AB	0	--
IIB	8C-9A	WHB	2003	3B	NONE	2	--
IIB	8C-9A	WHB	2003	3C	IIB72AB	20	--
IIB	8C-9A	WHB	2003	3C	NONE	11	--

Tab. 5.7.3.1 (VII) Landings (t) and discards (t) by species and derogation, 2003-2009. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "none" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	WHB	2003	3T	NONE	0	--
IIB	8C-9A	WHB	2003	NONE	NONE	255	--
IIB	8C-9A	WHB	2004	3A	IIB72AB	5109	--
IIB	8C-9A	WHB	2004	3A	NONE	21146	--
IIB	8C-9A	WHB	2004	3B	IIB72AB	1	--
IIB	8C-9A	WHB	2004	3B	NONE	1	--
IIB	8C-9A	WHB	2004	3C	IIB72AB	17	--
IIB	8C-9A	WHB	2004	3C	NONE	18	--
IIB	8C-9A	WHB	2004	3T	NONE	0	--
IIB	8C-9A	WHB	2004	NONE	NONE	109	--
IIB	8C-9A	WHB	2005	3A	IIB72AB	5916	--
IIB	8C-9A	WHB	2005	3A	NONE	19770	--
IIB	8C-9A	WHB	2005	3B	IIB72AB	1	--
IIB	8C-9A	WHB	2005	3B	NONE	2	--
IIB	8C-9A	WHB	2005	3C	IIB72AB	18	--
IIB	8C-9A	WHB	2005	3C	NONE	1	--
IIB	8C-9A	WHB	2005	3T	NONE	0	--
IIB	8C-9A	WHB	2005	NONE	NONE	89	--
IIB	8C-9A	WHB	2006	3A	IIB72AB	4379	--
IIB	8C-9A	WHB	2006	3A	NONE	17065	--
IIB	8C-9A	WHB	2006	3B	IIB72AB	0	--
IIB	8C-9A	WHB	2006	3B	NONE	1	--
IIB	8C-9A	WHB	2006	3C	IIB72AB	14	--
IIB	8C-9A	WHB	2006	3C	NONE	3	--
IIB	8C-9A	WHB	2006	3T	NONE	0	--
IIB	8C-9A	WHB	2006	NONE	NONE	215	--
IIB	8C-9A	WHB	2007	3A	IIB72AB	4356	--
IIB	8C-9A	WHB	2007	3A	NONE	17360	--
IIB	8C-9A	WHB	2007	3B	IIB72AB	1	--
IIB	8C-9A	WHB	2007	3B	NONE	1	--
IIB	8C-9A	WHB	2007	3C	IIB72AB	10	--
IIB	8C-9A	WHB	2007	3C	NONE	9	--
IIB	8C-9A	WHB	2007	3T	NONE	1	--
IIB	8C-9A	WHB	2007	NONE	NONE	520	--
IIB	8C-9A	WHB	2008	3A	IIB72AB	4722	--
IIB	8C-9A	WHB	2008	3A	NONE	17708	--
IIB	8C-9A	WHB	2008	3B	IIB72AB	1	--
IIB	8C-9A	WHB	2008	3B	NONE	3	--
IIB	8C-9A	WHB	2008	3C	IIB72AB	10	--
IIB	8C-9A	WHB	2008	3C	NONE	4	--
IIB	8C-9A	WHB	2008	3T	NONE	0	--
IIB	8C-9A	WHB	2008	NONE	NONE	351	--
IIB	8C-9A	WHB	2009	3A	IIB72AB	5104	--
IIB	8C-9A	WHB	2009	3A	NONE	20739	--
IIB	8C-9A	WHB	2009	3B	IIB72AB	1	--
IIB	8C-9A	WHB	2009	3B	NONE	0	--
IIB	8C-9A	WHB	2009	3C	IIB72AB	15	--
IIB	8C-9A	WHB	2009	3C	NONE	11	--
IIB	8C-9A	WHB	2009	3T	NONE	1	--

Tab. 5.7.3.1 (VIII) Landings (t) and discards (t) by species and derogation, 2003-2009. Regulation gears codes according to the EC Council Regulation No 41/2007: "3a" – bottom trawls of mesh size ≥ 32 mm, "3b" – gillnets of mesh size ≥ 60 mm, "3c" – bottom long-lines. Gear type "3t" denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type "none" contains other gears and the gears not allocated. "--" means "not available", "0" means "0 tonnes". No Spanish data for 2010 and 2011.

Annex	Area	Species	Year	Gear	Specon	Landings	Discards
IIB	8C-9A	WHB	2009	NONE	NONE	363	--
IIB	8C-9A	WHB	2010	3A	IIB72AB	2	--
IIB	8C-9A	WHB	2010	3A	NONE	1354	--
IIB	8C-9A	WHB	2010	3B	IIB72AB	0	--
IIB	8C-9A	WHB	2010	3B	NONE	0	--
IIB	8C-9A	WHB	2010	3C	IIB72AB	0	--
IIB	8C-9A	WHB	2010	3C	NONE	0	--
IIB	8C-9A	WHB	2010	3T	NONE	0	--
IIB	8C-9A	WHB	2010	NONE	NONE	0	--
IIB	8C-9A	WHB	2011	3A	IIB72AB	92	--
IIB	8C-9A	WHB	2011	3A	NONE	615	--
IIB	8C-9A	WHB	2011	3B	IIB72AB	0	--
IIB	8C-9A	WHB	2011	3B	NONE	0	--
IIB	8C-9A	WHB	2011	3C	IIB72AB	1	--
IIB	8C-9A	WHB	2011	3C	NONE	0	--
IIB	8C-9A	WHB	2011	3T	NONE	0	--
IIB	8C-9A	WHB	2011	NONE	NONE	0	--

The contributions of the individual derogations to the overall landings can be taken from Tables 5.7.3.1. For brevity, landings and discards in weight by derogation are restricted to anglerfish (ANF), horse mackerel (JAX), mackerel (MAC), rays (RAJ) and blue whiting (WHB).

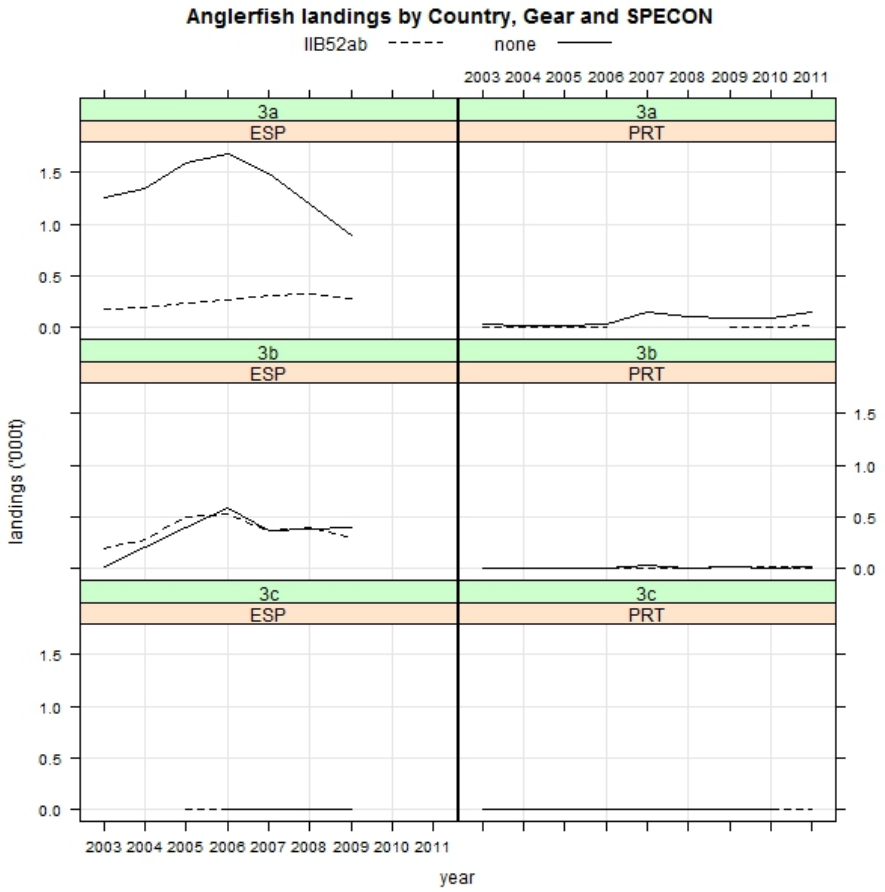


Fig. 5.7.3.1 Trends in landings of anglerfish by Member State, regulated gear and specon.

From these species, special attention is given to anglerfishes (Figure 5.7.3.1). However, the group anglerfish includes two species, *Lophius piscatorius* and *L. budegassa*, which are in different exploitation status and have different area distributions.

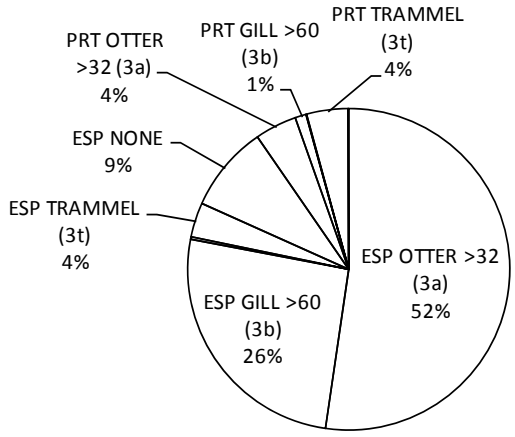


Figure 5.7.3.2. Average 2007-2009 anglerfish landings by fleet in 8c & 9a (excluding Cadiz) (ESP: Spain, PRT: Portugal).

Figure 5.7.3.2 shows the average 2007-2009 anglerfish landings by fleet. The Spanish regulated trawlers (3a) land 52% of anglerfish, followed by Spanish regulated gillnetters (3b, 26%) and Spanish non-regulated gears (none and trammel, 13%). Spanish regulated trawlers (3a) under effort restrictions (ESP-3a-specon none) land 79% of the total trawl anglerfish landings.

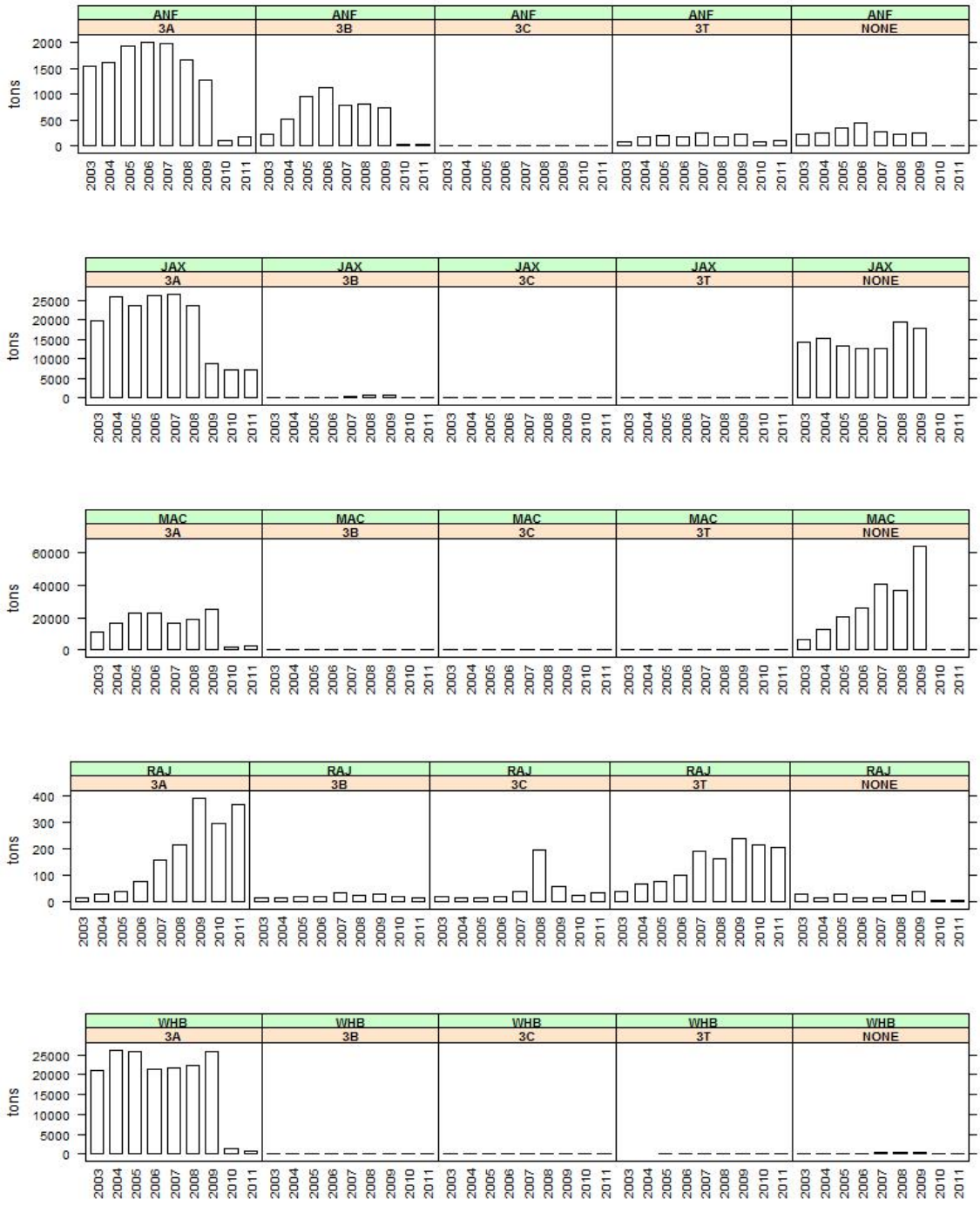


Figure 5.7.3.3 Landings by species and gear for the years 2003-2011. Spanish data for 2010-2011 not available. (ANF = Anglerfishes, JAX = *Trachurus spp.*, MAC = Mackerel, RAJ = Rays and WHB = Blue Whiting).

The data given in the Table 5.7.3.1 form the basis of the Figure 5.7.3.3 displaying the catches of anglerfish, horse mackerels, mackerel, rays and blue whiting by gear for the years 2003-2011. The lack of grey bars (representing discards) further indicates that data were not provided or there were no discards. The very low catches in 2010 and 2011 are related to the lack of information from Spanish fleets.

Regulated trawlers (3A) harvest high quantities of horse mackerels, mackerel and blue whiting (Figure 5.7.3.2). The main species in unregulated gears (NONE) are mackerel and horse mackerels.

5.7.4 ToR 1.d CPUE and LPUE of hake, Norway lobster and anglerfish by fisheries

Due to lack of 2010 and 2011 Spanish data (that represent 88% of the total catches of the stock of southern hake and 90% of anglerfish southern stocks), no CPUE trends are presented. The assessment performed by WGHMM in May 2011 (ICES, 2011) shows that hake biomass has increased since 2006. If effort data from all fleets were available, the CPUE trend would probably be consistent with this increase.

Nephrops data in 8c9a are mostly from Functional Units 28 and 29, in SW and S Portugal (9a). The remaining FUs, from Cantabrian Sea (8c) and 9a North are almost depleted. *Nephrops* is caught as by catch from other fisheries in very low quantities. Figure 5.7.4.1 compares the standardized *Nephrop*s CPUE presented in WGHMM for FUs 28 and 29 (ICES, 2012) and the CPUE derived from the data presented to this EWG, considering only the Portuguese catches and effort. In the case of this species, discards are negligible and catches are considered equal to landings. The overall trend since 2005 is decreasing in both cases. The EWG CPUE was estimated only for Portuguese bottom trawl (3a), with demersal trawl and crustacean trawl together. The standardized CPUE presented to WGHMM was estimated only for Portuguese crustacean trawl fleet and using only trips targeting *Nephrops*.

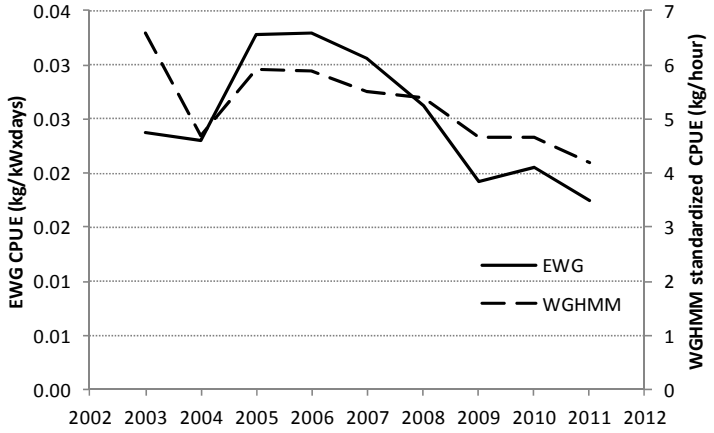


Figure 5.7.4.1 Comparison of *Nephrops* CPUE trends in Functional Units 28 and 29 (SW and S Portugal, within area 9a) using only Portuguese catch and effort data (EWG: CPUE estimated with this EWG data; WGHMM: CPUE estimates presented at WGHMM).

5.7.5 ToR 2 Remarks on quality of catches and discard estimates

Discards are only provided for hake and for trawl. Due to lack of consistency between the data call disaggregated metiers and the DCF sampling metiers, Spanish discards for otter trawl were assigned applying the discard rate used in WGHMM 2010 (ICES, 2010b) and Portuguese trawl hake discards were added to the final aggregated metiers based on DCF metiers estimates.

No discards on anglerfish were provided. Nephrops has no discards.

For more detailed information on quality of catches and discard estimates, see the section 4 “Data Quality” for each country.

5.7.6 Information on small boats (<10m by area)

Only Portugal has provided data for vessels below 10 m operating in areas 8c-9a, though specifying neither gear nor fishery. These vessels operate, in general, with several gears and do not fill logbooks. Data on catch and effort for these vessels are based on landings records. However, as no data from Spain were available and Annex IIB does not include limitations on this fleet effort, no analysis on this fleet segment was performed.

Since 2003, Portugal has carried out a specific sampling plan to collect data on the activity of the small scale fleet (<10m vessels) operating in continental waters. The data is collected with a stratified random strategy by skippers' interviews, and provides information about catches by species and effort. This sampling plan is under the scope of Reg. (EC) 1639/2001 and the results are presented on the DCF annual reports requested by the DGMARE.

5.7.7 ToR 3 Trend in calculated maximum effort of regulated gears and uptake by Member State

No adequate data are available to address this ToR. The allowed activity by vessel for the period 2003-2011 is presented in Table 5.7.3. Although the field “Number of Vessels” in Effort database has been filled, the data on the fishing activity is incomplete. Also, the vessels included can operate with different area/fishery/gear/mesh size combinations and therefore, the same vessels may be included in different records. Spain did not present any data on the fishing activity.

5.7.8 ToR 4 Any unexpected evolutions of the trends in catches and effort by Member State and fisheries

Due to incomplete data sets the STECF EWG 12-12 is unable to comment on recent evolutions.

5.7.9 ToR 5 Correlation between partial hake mortality and fisheries

Depending on data availability STECF EWG 12-12 will address this ToR during its follow-up meeting STECF EWG 12-12, 24-28 September 2012.

5.7.10 ToR 6 Considerations in order to accomplish spatio-temoral patterns in standardized catchability indices for hake, Nephrops and anglerfish

The STECF EWG 12-12 discussed this task and elaborated generic ideas given in section 4.9 of the present report.

5.8 Western Channel effort regime evaluation in the context of Annex IIC to Council Regulation (EC) No 57/2011)

5.8.1 ToR 1.a Fishing effort in kWdays, GTdays and number of vessels by Member State and fisheries

STECF EWG-12-12 notes that assignment of derogations and special conditions is based on best expert knowledge. Data errors may exist regarding the huge data bases and the special knowledge required to deal with them (grouping and exact formulation of data queries).

STECF EWG noted five years ago a change in Annexes IIC to Council Reg. 41/2007 for 2007 as compared to the Annex IIC to 51/2006 which removed the special conditions IIC71a and IIC71b to static nets <220mm (3b). STECF EWG further notes that there were no special derogations added to Annex IIC of Council Reg. 40/2008, Annex IIC of Council Reg. 43/2009, Annex IIC of Council Reg. 53/2010 or Annex IIC of Council Reg. 57/2011, or Annex IIC of Council Reg. 43/2012. Table 5.8.1.1 lists the historic developments of days at sea by vessel and derogations.

Table 5.8.1.1 – Western Channel - Historic trends in days at sea by vessel specified in the Council Regulations since 2005.

Annex	AREA	REG GEAR	SPECON	2005	2006	2007	2008	2009	2010	2011	2012
IIc	7e	3a	none	240	216	192	192	192	164	164	164
IIc	7e	3b	none	240	216	192	192	192	164	164	164
IIc	7e	3b deleted	ICC71ab		365						

Detailed information is available from 2000 onwards, and can be found on the JRC website:

Http://stecf.jrc.ec.europa.eu/web/stecf/ewg12

The previously identified French data problems affecting 2002 have so far not been corrected. STECF EWG decided therefore only to provide effort trends graphically starting from 2003. For brevity and clarity in this report only information since 2004 are tabulated. The dominating fleet from the two existing derogations in 7e (3a and 3b) is by far the English beam trawl fleet with percentages in the last 8 years in excess of 55% of the effort deployed (Table 5.8.1.2 and Figures 5.8.1.1 and 5.8.1.2). The other fleets involved are the French static gear fleet with a decreasing trend from 22% in 2006 to 8% in 2011 of the deployed effort and the Belgian beam trawl fleet with an increasing trend from less then 1% in 2000 up to about 16% in 2007 followed by a fluctuation around 12%. STECF-EWG however notes that about 83% of the overall effort deployed could not be allocated to regulated gear (e.g. gears outside the regulation such as otter- and pelagic trawls, dredges and pots). The "total" trend in Figure 5.8.1.2 is therefore highly influenced by the none regulated gear group. Regulated gears remain low or are further decreasing until 2011. The composition of the unregulated gears can be found in Table 5.8.1.6. Figure 5.8.1.3 shows the trends for all the unregulated gear in area VIIe.

There are no differences between the data provided in 2010 and 2011.

Information on GT*days at sea and the number of vessels active in 7e is presented in Tables 5.1.8.3 and 4, respectively.

The trends in the nominal effort of the two derogations (3a and 3b) are illustrated in Table 5.8.1.5. The beam trawl fleets decreased gradually from 2% below the 2004 level in 2005 to 39% below that level in 2009. In 2011, the relative effort deployed was 33% below the 2004 level. Also the static gear effort dropped substantially from 4% below the 2004 level in 2006 to a 72% below the 2004 level in 2011.

Category 'none' represents unregulated gear types and mesh sizes in addition to unidentified mesh sizes The effort of the unregulated gear group 'None' has been around 85% of the overall nominal effort for the whole time series.

Table 5.8.1.6 shows the disaggregation of the 'none' category into the different gears categories. Effort by otter trawl is by far the dominant gear category with percentages in excess of 43% for all years. Dredges contribute around 25 %. Pelagic trawl and pots contribute each about 10% to the overall effort of the non regulated gear. The rest of the gears also account for about 10%.

Table 5.8.1.2 – Western Channel - Trend in nominal effort (kW*days at sea) by existing derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2012) and Member State, 2004-2011. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in Section 4 of the report.

ANNEX	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2004	2005	2006	2007	2008	2009	2010	2011
IIc	7e	3a	none	BEL	633428	689624	628907	837161	584560	358399	383303	450341
IIc	7e	3a	none	ENG	3206806	3227096	3283897	3021075	2870177	2197118	2227991	2318845
IIc	7e	3a	none	FRA	317275	261700	289867	320576	146443	138669	303078	200030
IIc	7e	3a	none	GBJ	209969	121139						
IIc	7e	3a	none	IRL	34577	16518	6474	16610	2143	442		
IIc	7e	3a	none	NLD								
IIc	7e	3a	none	SCO				3666		1396		
IIc	**7e**	**3a Total**	**none**		**4402055**	**4316077**	**4209145**	**4199088**	**3603323**	**2696024**	**2914372**	**2969216**
IIc	7e	3b	none	ENG	206294	178818	153434	103278	104187	104045	109257	118156
IIc	7e	3b	none	FRA	1236654	946127	1236595	920004	615534	611990	304540	280434
IIc	7e	3b	none	SCO			1215	3240	9315	2430		
IIc	**7e**	**3b Total**	**none**		**1442948**	**1124945**	**1391244**	**1026522**	**729036**	**718465**	**413797**	**398590**
IIc	7e	none	none	BEL	6625	11039	17515	17231	45760	106007	138125	74939
IIc	7e	none	none	DEU	106234	92768	29865		36994	21196	139157	51687
IIc	7e	none	none	DNK	1424	46389	102713	31213	88637	17994	90505	
IIc	7e	none	none	ENG	4177419	4262278	4138665	4149225	3717287	4080660	4204415	4396407
IIc	7e	none	none	FRA	17093208	17780680	19456045	19370589	12637420	12553428	12823801	13095161
IIc	7e	none	none	GBG	75868	57128	45780	57710	26194	36366	68030	58026
IIc	7e	none	none	GBJ	1476	6745	19360	30580	25740	31020	38060	42020
IIc	7e	none	none	IOM			19902	1116	778			
IIc	7e	none	none	IRL	347597	152539	3880	23340	1023	14228	52800	22942
IIc	7e	none	none	LTU						29520		150400
IIc	7e	none	none	NIR	1302						576	
IIc	7e	none	none	NLD	449855	632891	956066	894614	1073200	801327	1040600	558954
IIc	7e	none	none	SCO	607935	691419	585805	595030	606253	674277	598441	543344
IIc	**7e**	**none Total**	**none**		**22868943**	**23733876**	**25375596**	**25170648**	**18259286**	**18366023**	**19194510**	**18993880**
IIc	**7e**	**Grand Total**	**none**		**28713946**	**29174898**	**30975985**	**30396258**	**22591645**	**21780512**	**22522679**	**22361686**

Table 5.8.1.3 – Western Channel - Trend in GTdays (GT*days at sea) by existing derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2012) and Member State, 2004-2011. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in Section 4 of the report.

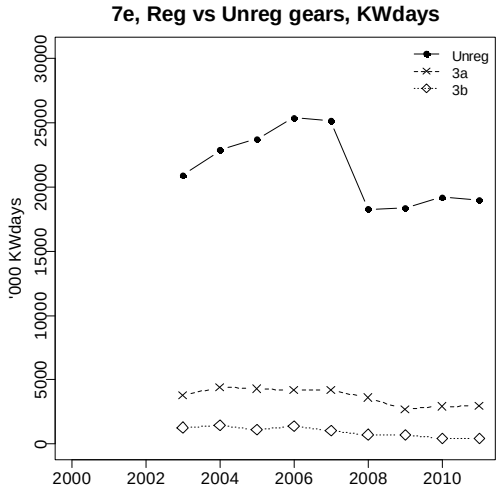
ANNEX	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2004	2005	2006	2007	2008	2009	2010	2011
IIc	7e	3a	none	BEL	217960	230378	211798	264266	182061	108653	115214	138197
IIc	7e	3a	none	ENG	931813	932208	957038	922227	918800	715956	732929	810429
IIc	7e	3a	none	FRA	67633	58636	54792	58858	22666	21952	59701	45891
IIc	7e	3a	none	GBJ	63209	36001						
IIc	7e	3a	none	IRL	7838	4112	2022	3620	810	196		
IIc	7e	3a	none	NLD								
IIc	7e	3a	none	SCO				1296		592		
IIc	**7e**	**3a Total**	**none**		**1288453**	**1261335**	**1225650**	**1250267**	**1124337**	**847349**	**907844**	**994517**
IIc	7e	3b	none	ENG	48508	45697	42816	24434	24507	21667	25037	24994
IIc	7e	3b	none	FRA	158424	125936	172966	133602	77388	76950	43128	33332
IIc	7e	3b	none	SCO			384	1024	2944	768		
IIc	**7e**	**3b Total**	**none**		**206932**	**171633**	**216166**	**159060**	**104839**	**99385**	**68165**	**58326**
IIc	7e	none	none	BEL	3636	5200	6484	6161	15039	34208	43562	22816
IIc	7e	none	none	DEU	143250	106230	39730		50030	29112	154280	48999
IIc	7e	none	none	DNK	619	23792	52955	14659	39515	8022	40349	
IIc	7e	none	none	ENG	1004424	1014489	996220	942868	912669	951836	1016967	1027568
IIc	7e	none	none	FRA	3320926	3501265	3904177	3818126	2530061	2518492	2948271	2952478
IIc	7e	none	none	GBG	14231	10689	8385	12267	4809	6848	12573	10903
IIc	7e	none	none	GBJ	511	1708	5787	9141	7694	9271	11377	12561
IIc	7e	none	none	IOM			4547	255	61			
IIc	7e	none	none	IRL	107588	41848	1240	10073	415	6676	52272	10030
IIc	7e	none	none	LTU						28497		149507
IIc	7e	none	none	NIR	301						221	
IIc	7e	none	none	NLD	331902	391614	734553	602242	769364	432549	687063	355146
IIc	7e	none	none	SCO	198594	218717	194240	208252	229716	264304	225152	200533
IIc	**7e**	**none Total**	**none**		**5125982**	**5315552**	**5948318**	**5624044**	**4559373**	**4289815**	**5192087**	**4790541**
IIc	**7e**	**Grand Total**	**none**		**6621367**	**6748520**	**7390134**	**7033371**	**5788549**	**5236549**	**6168096**	**5843384**

Table 5.8.1.4 – Western Channel - Trend in number of vessels by existing derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2012) and Member State, 2004-2011. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in section 4 of the report.

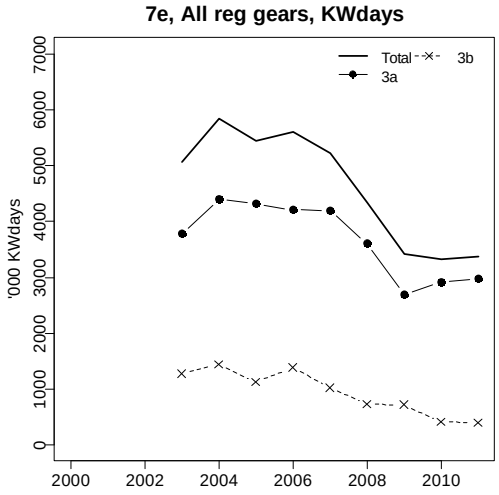
ANNEX	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2004	2005	2006	2007	2008	2009	2010	2011
IIc	7e	3a	none	BEL	57	67	58	55	49	44	31	33
IIc	7e	3a	none	ENG	62	53	51	53	47	43	38	44
IIc	7e	3a	none	FRA	12	13	20	15	11	10	13	8
IIc	7e	3a	none	GBJ	4	2						
IIc	7e	3a	none	IRL	2	2	5	1	2	1		
IIc	7e	3a	none	NLD								
IIc	7e	3a	none	SCO				1		1		
IIc	**7e**	**3a Total**	**none**		**137**	**137**	**134**	**125**	**109**	**99**	**82**	**85**
IIc	7e	3b	none	ENG	21	17	17	14	12	13	12	12
IIc	7e	3b	none	FRA	68	62	77	48	34	34	22	22
IIc	7e	3b	none	SCO			1	1	1	1		
IIc	**7e**	**3b Total**	**none**		**89**	**79**	**95**	**63**	**47**	**48**	**34**	**34**
IIc	7e	none	none	BEL	3	6	7	6	12	28	23	20
IIc	7e	none	none	DEU	4	3	3		2	1	3	1
IIc	7e	none	none	DNK	1	6	8	1	1	1	1	
IIc	7e	none	none	ENG	178	162	170	174	172	156	154	158
IIc	7e	none	none	FRA	837	943	1114	1259	868	1022	688	654
IIc	7e	none	none	GBG	1	2	4	5	4	3	3	2
IIc	7e	none	none	GBJ	1	1	1	1	1	1	2	3
IIc	7e	none	none	IOM			1	1	2			
IIc	7e	none	none	IRL	13	5	1	3	2	2	1	2
IIc	7e	none	none	LTU						1		1
IIc	7e	none	none	NIR	1						1	
IIc	7e	none	none	NLD	15	13	13	19	15	18	16	17
IIc	7e	none	none	SCO	23	14	21	16	15	18	18	19
IIc	**7e**	**none Total**	**none**		**1077**	**1155**	**1343**	**1485**	**1094**	**1251**	**910**	**877**
IIc	**7e**	**Grand Total**	**none**		**1303**	**1371**	**1572**	**1673**	**1250**	**1398**	**1026**	**996**

Table 5.8.1.5 Western Channel - Trend in nominal effort (kW*days at sea) by derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2012), 2004-2011. Derogations are sorted by gear and special condition (SPECON). Data qualities are summarised in Section 4 of the report.

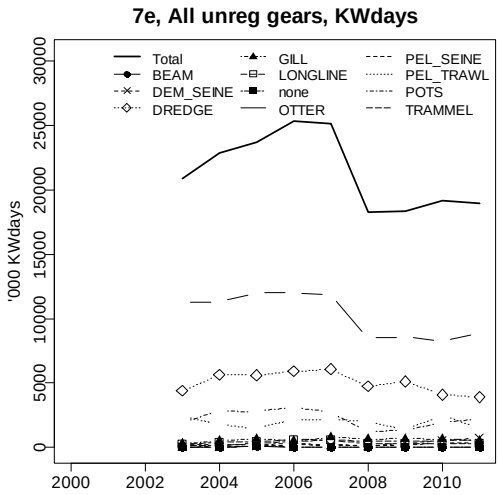
ANNEX	REG AREA	REG GEAR	SPECON	2004	2005	2006	2007	2008	2009	2010	2011	Rel. Change to 04	Rel. Change to 10
IIc	7e	3a	none	4402055	4316077	4209145	4199088	3603323	2696024	2914372	2969216	-0.33	0.02
IIc	7e	3b	none	1442948	1124945	1391244	1026522	729036	718465	413797	398590	-0.72	-0.04
IIc	7e	none	none	22868943	23733876	25375596	25170648	18259286	18366023	19194510	18993880	-0.17	-0.01
Sum	**7e**			**28713946**	**29174898**	**30975985**	**30396258**	**22591645**	**21780512**	**22522679**	**22361686**	-0.22	-0.01



Figures 5.8.1.1 – Western Channel -Trend in nominal effort (kW*days at sea) by derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2012), 2003-2011. Derogations are sorted by gear and special condition (SPECON). Data qualities are summarised in section 4. 3a represents beam trawls of mesh size ≥ 80 mm and 3b represents static nets with mesh size < 220 mm.



Figures 5.8.1.2 – Western Channel -Trend in nominal effort (kW*days at sea) by derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2012), 2003-2011. Derogations are sorted by gear and special condition (SPECON). Data qualities are summarised in section 4. 3a represents beam trawls of mesh size ≥ 80 mm and 3b represents static nets with mesh size < 220 mm.



Figures 5.8.1.3 – Western Channel -Trend in nominal effort (kW*days at sea) by unregulated gear according to Table 1 of Annex IIC (Coun. Reg. 43/2012), 2003-2011. Data qualities are summarised in section 4.

Table. 5.8.1.6. Western Channel Unregulated gear (category none-none) effort (kW*Days) by gear type, 2004-2011.

ANNEX	REG_AREA	REG_GEAR	REG GEAR COD	2004	2005	2006	2007	2008	2009	2010	2011
IIc	7e	none	OTTER	11306475	11989022	12028972	11848608	8475537	8576314	8279978	8825774
IIc	7e	none	DREDGE	5637002	5602368	5903594	6083728	4752272	5121171	4096901	3894771
IIc	7e	none	POTS	2801196	2784755	3141625	2718668	1230013	1316333	1959298	2200079
IIc	7e	none	PEL_TRAWL	1830023	1474970	2163387	2131950	2020287	1410938	2458100	1537387
IIc	7e	none	DEM_SEINE	52316	94168	202941	166784	129716	307752	537514	729186
IIc	7e	none	TRAMMEL	131206	346504	436467	626072	486195	475625	522126	571254
IIc	7e	none	GILL	488105	674577	534836	781892	658756	665549	661402	520427
IIc	7e	none	PEL_SEINE	193853	183887	295531	207190	175282	174967	321953	344896
IIc	7e	none	LONGLINE	382787	441367	615657	587251	312345	277793	318936	301230
IIc	7e	none	none	33746	76435	42606	12474	18883	18883	0	48801
IIc	7e	none	BEAM	12234	65823	9980	6031	0	20698	38302	20075
Sum				**22868943**	**23733876**	**25375596**	**25170648**	**18259286**	**18366023**	**19194510**	**18993880**

5.8.2 ToR 1.b Catches (landings and discards) of sole in weight and numbers at age by fisheries

Although the data available for the review of Annex IIC of regulation 53/2010 comes from all countries involved in the fisheries, there is little information on discards for most of the species. Only very sparse discard information is available for anglerfish, cod, haddock, hake, plaice, sole and whiting. The lack of discard information on plaice in particular, increases the likelihood of incorrect assumptions on total removals for that species.

The following Table 5.8.2.1 lists the landings, discards and discard rates for the sole by derogations. For brevity, the following sections represent the landings and discards by derogation in weight for a subset of the species caught ie. anglerfish (ANF), cod (COD), haddock (HAD), hake, (HKE), Nephrops (NEP), plaice (PLE), saithe (POK), sole (SOL), and whiting (WHG). However, additional data queries for other species can be made depending on data provisions of the national catches by the experts or national institutes. The data given in the table form the basis of Figure 5.8.2.1 displaying the catch compositions by derogations for the years 2004-2011. The absence of dark bars representing discards also indicates lack of observations rather than low discard numbers.

Figure 5.8.2.1 shows that in the beam trawl fleets (3a) landings of anglerfish have substantially increased in 2010 and 2011. Sole and plaice landings have been at a lower level since 2006/2007. Landings of the other main species have been rather stable at low levels. Landings by static nets (derogations 3b) are dominated by anglerfish which show a sharp decline since 2010. The category “none” which is responsible for most of the landings (except for sole, plaice and partly anglerfish) consist mainly of otter trawls. Information from otter trawls suggest that there is substantial discarding of cod, haddock and whiting. However, it should be noted that there is no discard information available for the period before 2010, and therefore no trends in discard practices can be concluded. Landings of anglerfish have dropped substantially in 2010, whereas landings of haddock and whiting have increased in the last 6 years (Haddock landings have more than double in 2011 and go inside with high discarding).Cod landings have fluctuated around the same levels since 2006 with a markedly increase in 2011. Information on landings and discards at age will be elaborated during the follow-up meeting STECF EWG 12-12.

Table 5.8.2.2 provides the sole catches of the unregulated gear types. The sole catches of the unregulated gear are in excess of 32% of the overall sole catches in area 7e for each year of the data series (2004-2011). The otter trawl fleet is the main fleet involved with percentages in excess of 26%. For 2011 the unregulated gears account for 32% of the overall sole catches where the otter trawl fleet is responsible for 27% of these catches.

Again STECF-EWG would like to mention that there is little information on discards for area 7e and therefore that the above percentages are more likely to be representative of landings than of total catches.

Tab. 5.8.2.1 Western Channel - Landings (t), discards (t) and relative discard rates for sole and derogation, 2004-2011 – Note: Discard information for area 7e are sparse and not available for all countries.

REG_GEAR	SPECIES	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
3a	SOL	184			486			530			497	1	0.00	430			347	7	0.02	376	4	0.01	430	27	0.06
3b	SOL	49			71			41			49			45			48			22			49		
none	SOL	192			300			268			273			232			222			197	4	0.02	225		

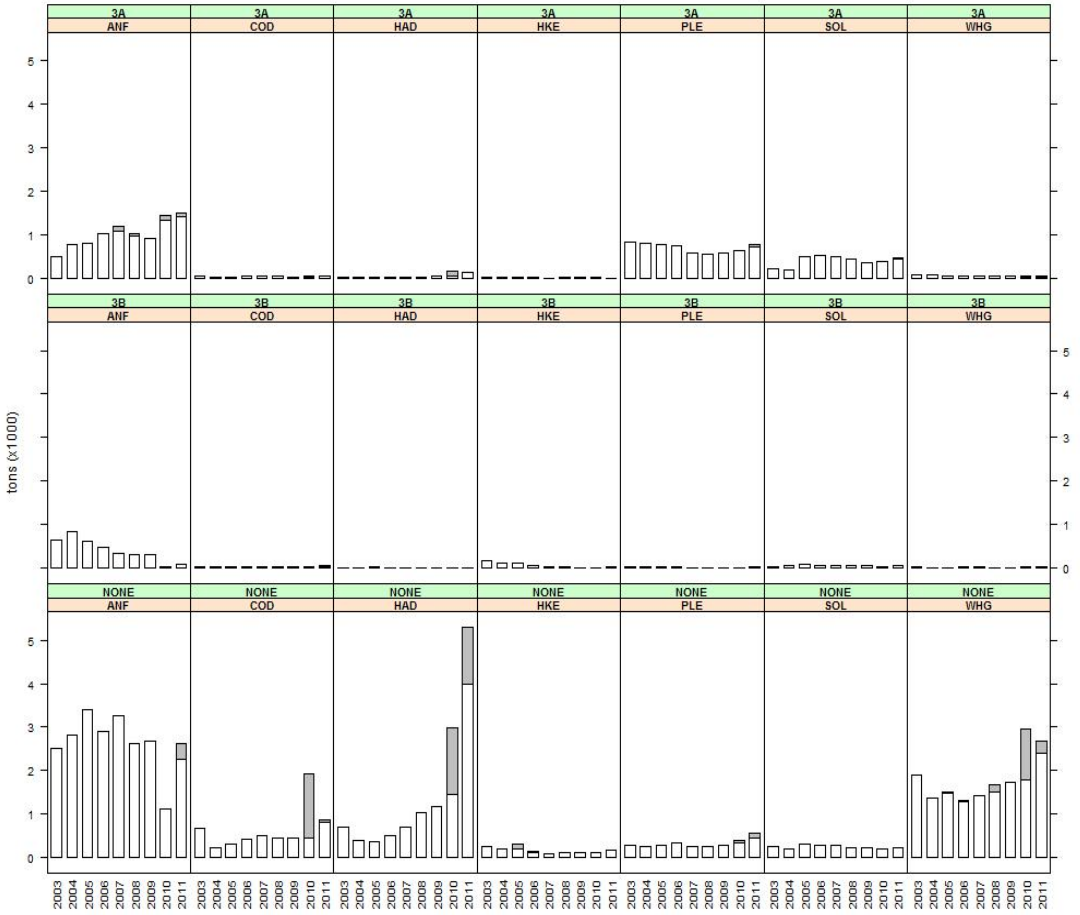


Fig. 5.8.2.1 – Western Channel - Landings (t) and discard (t) by derogation and species, 2004-2011, as well as for the "none" regulated gear. Note that information collected on discards is incomplete, so the apparent absence of discards in the figures for a given species/gear does not necessarily mean zero discards.

Table. 5.8.2.2. Western Chanel. Unregulated gear (category none-none) sole (t) catch composition by gear type, 2004-2011. Note: Discard information for area 7e are sparse and therefore the table figures should rather be interpreted as landings then catches.

ANNEX	REG_AREA	SPECIES	REG_GEAR	Gear code	2004	2005	2006	2007	2008	2009	2010	2011
IIc	7e	SOL	none	OTTER	165	235	236	239	192	187	157	188
IIc	7e	SOL	none	DREDGE	17	28	27	32	38	31	24	29
IIc	7e	SOL	none	POTS	0	3	0	1	0	0	10	4
IIc	7e	SOL	none	DEM_SEINE			0				0	1
IIc	7e	SOL	none	GILL	2	5	0	0	0	1	3	1
IIc	7e	SOL	none	PEL_TRAWL	0	0	0	0	0	0	1	1
IIc	7e	SOL	none	TRAMMEL	5	12	0	1	2	2	1	1
IIc	7e	SOL	none	BEAM	1	13	1	0		1	1	0
IIc	7e	SOL	none	LONGLINE	0	0	0	0	0	0	0	0
IIc	7e	SOL	none	PEL_SEINE							0	
IIc	7e	SOL	none	none	2	4	4	0	0	0		0
Sum					**192**	**300**	**268**	**273**	**232**	**222**	**197**	**225**

The relative contribution of sole weights in the catch (Table 5.8.2.3) shows an increase from 2003 to 2006 and stabilization afterwards for the dominating beam trawls (3a), which coincides with a decrease of the category "none", mainly otter trawls which are not effort regulated in Annex IIc. STECF EWG notes however that this otter trawl fleet is generally responsible for about 30% of the estimated sole and plaice catches in weight and about 85% of the cod catches in weight. The static nets with mesh size <220 mm (3b) are taking around 4-11% of sole catches in weight. There is no difference in ranking of the derogations according to the year 2011 or the average of 2009-2011.

Table 5.8.2.3 Western Channel - Ranked derogations according to relative sole catches in weight (t) 2004-2011. Ranking is according to the year 2011 and the average 2009-2011.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	Avg.2009-2011
IIc	7e	SOL	3a	0.42	0.44	0.57	0.63	0.61	0.61	0.57	0.63	0.62	0.61
IIc	7e	SOL	none	0.52	0.45	0.35	0.32	0.33	0.33	0.36	0.33	0.31	0.33
IIc	7e	SOL	3b	0.06	0.11	0.08	0.05	0.06	0.06	0.08	0.04	0.07	0.06

5.8.3 ToR 1.c Catches (landings and discards) of non-sole species in weight and numbers at age by fisheries

Table 5.8.3.1 lists the Landings (t), discards (t) and discard rates for the main species except sole by derogation, 2004-2011. Figure 5.8.2.1 incorporates next to sole, also the other main species in the fisheries and is commented on above (see section *Tor 1.b)*.

Table 5.8.3.2 provides the cod catches of the unregulated gear types. The cod catches of the unregulated gear are in excess of 84% of the overall cod catches in area 7e for each year of the data series (2004-2011). The otter trawl fleet is taking the bulk of these catches with percentages in excess of 81%. For 2011 the unregulated gears account for 92% of the overall cod catches where the otter trawl fleet is responsible for 86% of these catches.

Table 5.8.3.3 provides the plaice catches of the unregulated gear types. The plaice catches of the unregulated gear are in excess of 23% of the overall plaice catches in area 7e for each year of the data series (2004-2011). The otter trawl fleet is the main fleet involved with percentages in excess of 22%. For 2011 the unregulated gears account for 38% of the overall plaice catches where the otter trawl fleet is responsible for 36% of these catches.

Again STECF-EWG would like to mention that there is little information on discards for area 7e and therefore that the above percentages are more likely to be representative of landings than of total catches.

Tab. 5.8.3.1 Western Channel - Landings (t), discards (t) and relative discard rates by species and derogation, 2004-2011 – Note: Discard information for area 7e is sparse and not available for all countries.

REG_GEAR	SPECIES	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R	2009 L	2009 D	2009 R	2010 L	2010 D	2010 R	2011 L	2011 D	2011 R
3a	ANF	769			795			1013			1086	105	0.09	959	74	0.07	916	98	0.10	1344	92	0.06	1413	97	0.06
3b	ANF	824			618			459			318			302			303			12			67	2	0.03
none	ANF	2805			3412			2891			3256			2619			2688			1103			2258	350	0.13
3a	COD	29			32			36			49	2	0.04	37			28	1	0.03	31	16	0.34	44		
3b	COD	16			15			16			13			8			13			10			29	11	0.28
none	COD	231			302			416			511			451			433			430	1504	0.78	796	76	0.09
3a	HAD	14	2	0.13	10			17			22			30			38			55	95	0.63	128	15	0.10
3b	HAD	4			8			3			3			1			1			4			2		
none	HAD	384	9	0.02	362			492			703			1023			1166			1439	1533	0.52	3975	1313	0.25
3a	HKE	6			6	18	0.75	6	6	0.50	3			10			12			7			4		
3b	HKE	114			98			60			19			9			3			7			12	4	0.25
none	HKE	179	7	0.04	205	88	0.30	117	14	0.11	88			102			109			97			156		
3a	NEP																								
3b	NEP																								
none	NEP	8			13			6			10			9			9								
3a	PLE	801			767			743			571	2	0.00	547	9	0.02	581	2	0.00	627	4	0.01	726	34	0.04
3b	PLE	19			24			13			7			4			6			7			8	1	0.11
none	PLE	242			279			322			255			261			274			324	70	0.18	448	96	0.18
3a	POK	1																							
3b	POK	11			17			3			1			1			3			5					
none	POK	5			2			3			1			1			1			16					
3a	WHG	61			53	1	0.02	45			46	1	0.02	48			38			30	4	0.12	32	9	0.22
3b	WHG	7			6			11			8			6			5			10			16		
none	WHG	1352			1478	16	0.01	1293	4	0.00	1407			1501	163	0.10	1729			1779	1165	0.40	2398	276	0.10

Table. 5.8.3.2. Western Chanel. Unregulated gear (category none-none) cod (t) catch composition by gear type, 2004-2011. Note: Discard information for area 7e are sparse and therefore the table figures should rather be interpreted as landings then catches.

ANNEX	REG_AREA	SPECIES	REG_GEAR	Gear code	2004	2005	2006	2007	2008	2009	2010	2011
IIc	7e	COD	none	OTTER	223	298	391	503	439	415	399	749
IIc	7e	COD	none	DEM_SEINE			1	1		5	10	26
IIc	7e	COD	none	TRAMMEL	1	1	2	2	3	3	6	9
IIc	7e	COD	none	LONGLINE	3	0	17	1	1	1	0	5
IIc	7e	COD	none	GILL	4	3	5	3	6	7	5	4
IIc	7e	COD	none	PEL_TRAWL	0	0	0	0	0	0	5	1
IIc	7e	COD	none	POTS	0	0	0	0	0	0	0	1
IIc	7e	COD	none	BEAM	0	0	0			0	0	0
IIc	7e	COD	none	DREDGE	0	0	0	1	2	2	5	0
IIc	7e	COD	none	PEL_SEINE							0	
IIc	7e	COD	none	none				0				1
Sum					**231**	**302**	**416**	**511**	**451**	**433**	**430**	**796**

Table 5.8.3.3 Western Chanel. Unregulated gear (category none-none) plaice (t) catch composition by gear type, 2004-2011. Note: Discard information for area 7e are sparse and therefore the table figures should rather be interpreted as landings then catches.

ANNEX	REG_ARE.	SPECIES	REG_GEAR	Gear code	2004	2005	2006	2007	2008	2009	2010	2011
IIc	7e	PLE	none	OTTER	231	257	312	246	252	261	316	427
IIc	7e	PLE	none	DEM_SEINE		0	0	0	0	3	3	10
IIc	7e	PLE	none	DREDGE	9	14	9	7	8	8	4	9
IIc	7e	PLE	none	BEAM	1	4	1	2		0	0	1
IIc	7e	PLE	none	TRAMMEL	0	3	0	0	1	1	0	1
IIc	7e	PLE	none	GILL	0	1	0	0	0	1	1	0
IIc	7e	PLE	none	LONGLINE	0	0	0	0	0	0	0	0
IIc	7e	PLE	none	PEL_TRAWL	0	0	0	0	0	0	0	0
IIc	7e	PLE	none	POTS	0	0	0	0	0	0	0	0
IIc	7e	PLE	none	PEL_SEINE				0			0	
IIc	7e	PLE	none	none	1	0		0	0	0		0
Sum					**242**	**279**	**322**	**255**	**261**	**274**	**324**	**448**

Table. 5.8.3.4. Western Chanel. Unregulated gear (category none-none) cod (t) catch composition by gear type, 2004-2011. Note: Discard information for area 7e are sparse and therefore the table figures should rather be interpreted as landings then catches.

ANNEX	REG_AREA	SPECIES	REG_GEAR	Gear code	2004	2005	2006	2007	2008	2009	2010	2011
IIc	7e	COD	none	OTTER	223	298	391	503	439	415	399	749
IIc	7e	COD	none	DEM_SEINE			1	1		5	10	26
IIc	7e	COD	none	TRAMMEL	1	1	2	2	3	3	6	9
IIc	7e	COD	none	LONGLINE	3	0	17	1	1	1	0	5
IIc	7e	COD	none	GILL	4	3	5	3	6	7	5	4
IIc	7e	COD	none	PEL_TRAWL	0	0	0	0	0	0	5	1
IIc	7e	COD	none	POTS	0	0	0	0	0	0	0	1
IIc	7e	COD	none	BEAM	0	0	0			0	0	0
IIc	7e	COD	none	DREDGE	0	0	0	1	2	2	5	0
IIc	7e	COD	none	PEL_SEINE							0	
IIc	7e	COD	none	none				0				1
Sum					**231**	**302**	**416**	**511**	**451**	**433**	**430**	**796**

Table 5.8.3.5 Western Chanel. Unregulated gear (category none-none) plaice (t) catch composition by gear type, 2004-2011. Note: Discard information for area 7e are sparse and therefore the table figures should rather be interpreted as landings then catches.

ANNEX	REG_ARE.	SPECIES	REG_GEAR	Gear code	2004	2005	2006	2007	2008	2009	2010	2011
IIc	7e	PLE	none	OTTER	231	257	312	246	252	261	316	427
IIc	7e	PLE	none	DEM_SEINE		0	0	0	0	3	3	10
IIc	7e	PLE	none	DREDGE	9	14	9	7	8	8	4	9
IIc	7e	PLE	none	BEAM	1	4	1	2		0	0	1
IIc	7e	PLE	none	TRAMMEL	0	3	0	0	1	1	0	1
IIc	7e	PLE	none	GILL	0	1	0	0	0	1	1	0
IIc	7e	PLE	none	LONGLINE	0	0	0	0	0	0	0	0
IIc	7e	PLE	none	PEL_TRAWL	0	0	0	0	0	0	0	0
IIc	7e	PLE	none	POTS	0	0	0	0	0	0	0	0
IIc	7e	PLE	none	PEL_SEINE				0			0	
IIc	7e	PLE	none	none	1	0		0	0	0		0
Sum					**242**	**279**	**322**	**255**	**261**	**274**	**324**	**448**

5.8.4 ToR 1.d CPUE and LPUE of sole, plaice and cod by fisheries and Member States

Very limited discards are available for sole, plaice and cod, therefore LPUE for sole, plaice and cod are represented in Tables 5.8.4.1-3. Figures 5.8.4.1-3 show CPUE and LPUE trends for sole, plaice and cod since 2003. Graphically, only the regulated gears and the most important unregulated gears (otter trawl and dredges) are presented.

Tables showing LPUE and CPUE by gear groups (regulated and unregulated), area and nation are not presented in this report but are available on the JRC website: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

For sole the beam trawl gear (3a) show a stable trend for the main fleets of England, France and Belgium with values of around 140, 250 and 45 g/kW*days respectively. The high value for the French beamers could be explained because they are predominantly smaller boats with smaller engines compared to the English and Belgium beam trawl fleet. The low values for the Belgian fleet reflect more the "non targeting" nature of the fleet for sole. The CPUE and LPUE from the French static gear (3b) fluctuates highly from year to year between 30 and 150 g/kW*days whereas the English static gear is more stable around 50 g/kW*days.

The highest CPUE and LPUE for plaice are recorded by the Belgian beam trawl fleet (3a), fluctuating between 70 and 300 g/kW*days, closely followed by the English beam trawl fleet of around 250 g/kW*days over the whole period. French otter trawl CPUE and LPUE has increased sharply from 70 g/kW*days in 2007 to about 200 g/kW*days in 2011. The same trend is observed in the French beam trawl fleet (3a) with an increase from 15 g/kW*days to 120 g/kW*days

Cod CPUE and LPUE have the highest values for English static gear (3b) and French otter trawls, fluctuating between 30 and 250 g/kW*days. The English otter trawl and gill net fleet obtain only values between 5 and 50 g/kW*days.

Table 5.8.4.1 Western Channel - Sole CPUE (g/(kW*days)) by derogation and year, 2004-2011. Note: Discard information for area 7e area sparse and therefore LPUE is provided in the table. (CPUE is presented in the figures).

ANNEX	SPECIES	REG AREA COD	REG GEAR	SPECON	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
IIc	SOL	7e	3a	none	42	113	126	118	119	128	129	145	134
IIc	SOL	7e	3b	none	33	63	29	48	62	65	53	123	77
IIc	SOL	7e	BEAM	none	82	197	100	0	0	48	26	0	25
IIc	SOL	7e	DEM_SEINE	none			0			0	0	1	1
IIc	SOL	7e	DREDGE	none	3	5	4	5	8	6	6	7	6
IIc	SOL	7e	GILL	none	4	7	0	0	0	2	5	2	3
IIc	SOL	7e	LONGLINE	none	0	0	0	0	0	0	0	0	0
IIc	SOL	7e	none	none	59	52	94	0	0	0	0	0	0
IIc	SOL	7e	OTTER	none	15	20	20	20	23	22	19	21	21
IIc	SOL	7e	PEL_SEINE	none						0	0	0	0
IIc	SOL	7e	PEL_TRAWI	none	0	0	0	0	0	0	0	1	0
IIc	SOL	7e	POTS	none	0	1	0	0	0	0	5	2	3
IIc	SOL	7e	TRAMMEL	none	38	35	0	2	4	4	2	2	3

Table 5.8.4.2 Western Channel - Plaice CPUE (g/(kW*days)) by derogation and year, 2004-2011. Note: Discard information for area 7e area sparse and therefore LPUE is provided in the table. (CPUE is presented in the figures).

ANNEX	SPECIES	REG AREA COD	REG GEAR	SPECON	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
IIc	PLE	7e	3a	none	182	178	177	136	152	215	215	245	225
IIc	PLE	7e	3b	none	12	21	9	7	5	8	17	18	13
IIc	PLE	7e	BEAM	none	82	61	100	332	0	0	0	50	13
IIc	PLE	7e	DEM_SEINE	none		0	0	0	0	10	6	14	10
IIc	PLE	7e	DREDGE	none	2	2	2	1	2	2	1	2	2
IIc	PLE	7e	GILL	none	0	1	0	0	0	2	2	0	1
IIc	PLE	7e	LONGLINE	none	0	0	0	0	0	0	0	0	0
IIc	PLE	7e	none	none	30	0		0	0	0	0	0	0
IIc	PLE	7e	OTTER	none	21	21	26	21	30	30	38	48	39
IIc	PLE	7e	PEL_SEINE	none				0		0	0	0	0
IIc	PLE	7e	PEL_TRAWI	none	0	0	0	0	0	0	0	0	0
IIc	PLE	7e	POTS	none	0	0	0	0	0	0	0	0	0
IIc	PLE	7e	TRAMMEL	none	0	9	0	0	2	2	0	2	1

Table 5.8.4.3 Western Channel - Cod CPUE (g/(kW*days)) by derogation and year, 2004-2011. Note: Discard information for area 7e area sparse and therefore LPUE is provided in the table. (CPUE is presented in the figures).

ANNEX	SPECIES	REG AREA	REG GEAR	SPECON	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
IIc	COD	7e	3a	none	7	7	9	12	10	10	10	15	12
IIc	COD	7e	3b	none	11	12	12	14	10	18	24	73	34
IIc	COD	7e	BEAM	none	0	0	0		0	0	0	0	0
IIc	COD	7e	DEM_SEIN	none			5	6		16	19	36	26
IIc	COD	7e	DREDGE	none	0	0	0	0	0	0	1	0	1
IIc	COD	7e	GILL	none	6	4	7	4	8	9	8	8	8
IIc	COD	7e	LONGLINE	none	8	0	26	2	3	4	0	17	7
IIc	COD	7e	none	none				0		0	0	20	15
IIc	COD	7e	OTTER	none	20	25	33	42	52	48	48	85	61
IIc	COD	7e	PEL_SEIN	none						0	0	0	0
IIc	COD	7e	PEL_TRAV	none	0	0	0	0	0	0	2	1	1
IIc	COD	7e	POTS	none	0	0	0	0	0	0	0	0	0
IIc	COD	7e	TRAMMEL	none	8	3	5	3	6	6	11	16	11

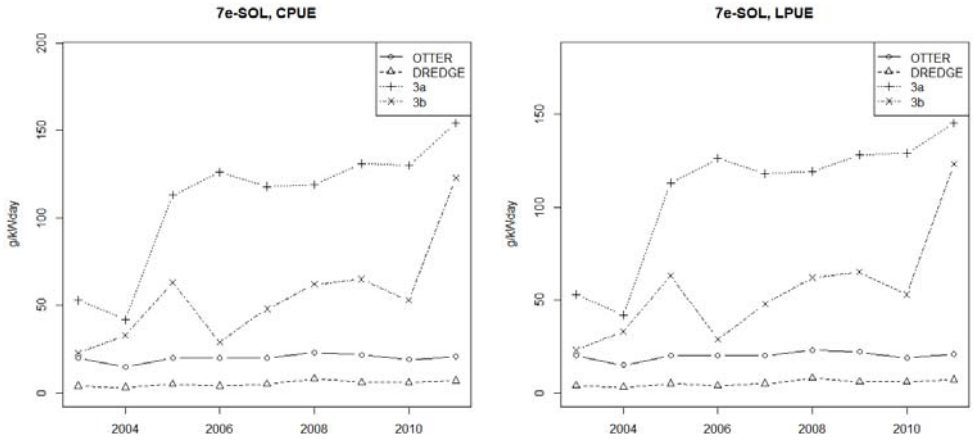


Figure 5.8.4.1 Western Channel - Sole – CPUE (left) and LPUE (right) (g/(KW*days)) by derogation and year, 2003-2011.

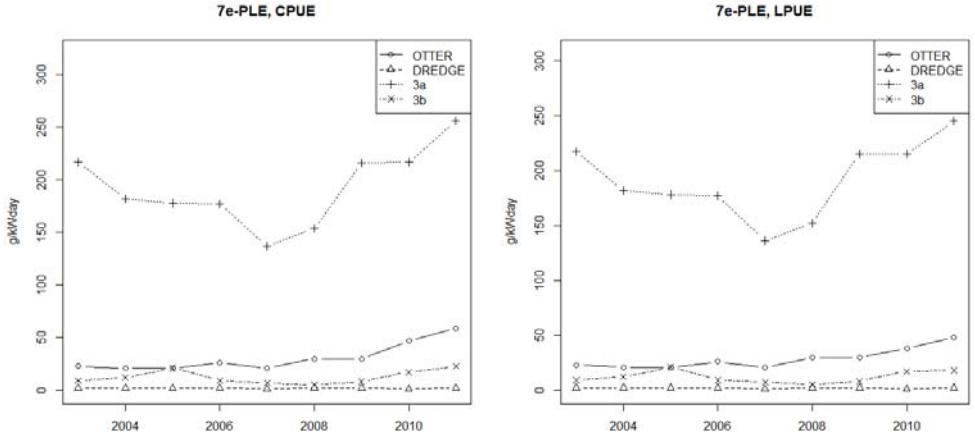


Figure 5.8.4.2 Western Channel - Plaice – CPUE (left) and LPUE (right) (g/(KW*days)) by derogation and year, 2003-2011.

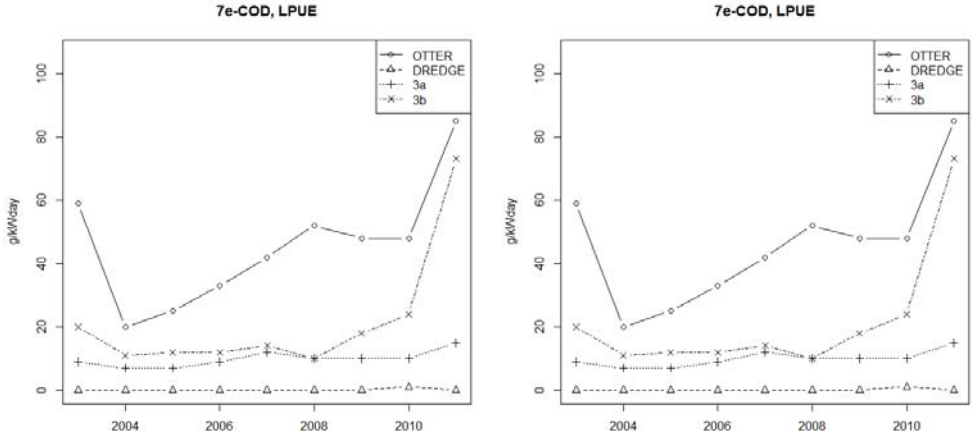


Figure 5.8.4.3 Western Channel - Cod – CPUE (left) and LPUE (right) (g/(KW*days)) by derogation and year, 2003-2011.

5.8.5 ToR 2 Remarks on quality of catches and discard estimates

Discard information is scarce.

5.8.6 ToR 3 Information on small boats (<10m)

5.8.6.1 Fishing effort of small boats by Member State

It should be noted that not all countries have submitted information and that the total figures are therefore likely to give an underestimation of effort and catches of this vessel category.

Table 5.8.6.1.1 provides an overview of the effort deployed by vessels >10m (regulated and non regulated gear) and vessels <10m in the Western Channel for the period 2004-2011. The effort from the vessels <10m fluctuates between 13% and 25% of the effort deployed by the vessels >10m.

Table 5.8.6.1.1 Western Channel - Trend in nominal effort (kW*days at sea) by derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2012), unregulated gear and vessels <10m, 2004-2011.

ANNEX	REG AREA (REG GEAR	SPECON	2004	2005	2006	2007	2008	2009	2010	2011
IIc	7e	3a	none	4402055	4316077	4209145	4199088	3603323	2696024	2914372	2969216
IIc	7e	3b	none	1442948	1124945	1391244	1026522	729036	718465	413797	398590
IIc	7e	none	none	22868943	23733876	25375596	25170648	18259286	18366023	19194510	18993880
Sum_O10m	**7e**			**28713946**	**29174898**	**30975985**	**30396258**	**22591645**	**21780512**	**22522679**	**22361686**
Sum_U10m	**7e**			**4725226**	**3699800**	**5719680**	**5501293**	**4335239**	**3892587**	**4897943**	**5609749**
%-U10m	**7e**			**16**	**13**	**18**	**18**	**19**	**18**	**22**	**25**

5.8.6.2 Catches (landings and discards) of sole and associated species by small boats by Member State

Table 5.8.6.2.1 gives a preliminary overview of the catches of some main species (anglerfish, cod, haddock, hake, Nephrops, plaice, saithe, sole and whiting in area 7e for vessels <10m (2004-2011). STECF EWG would like to mention that although these figures are underestimates, they indicate that between 7% and 15% of the sole catches are taken by vessels < 10m.

More detailed information for vessels <10 meters were available only from France for the period 2003-2007. This information was presented in the 2008 report and is not repeated here. An update will be provided once new data become available.

Table 5.8.6.2.1 Western Channel – Overview of anglerfish, cod, haddock, hake, nephrops, plaice, saithe, sole and whiting catches by vessels <10m, 2004-2011.

REG_AREA	REG_GEAR	SPECIES	2004	2005	2006	2007	2008	2009	2010	2011
7e	3a	ANF	769	795	1013	1086	959	916	1344	1413
7e	3b	ANF	824	618	459	318	302	303	12	67
7e	none	ANF	2805	3412	2891	3256	2619	2688	1103	2258
Sum_O10m		ANF	4398	4825	4363	4660	3880	3907	2459	3738
Sum_U10m		ANF	262	217	199	286	237	225	179	196
%-U10m			**6**	**4**	**5**	**6**	**6**	**6**	**7**	**5**
7e	3a	COD	29	32	36	49	37	28	31	44
7e	3b	COD	16	15	16	13	8	13	10	29
7e	none	COD	231	302	416	511	451	433	430	796
Sum_O10m		COD	276	349	468	573	496	474	471	869
Sum_U10m		COD	26	17	40	57	35	46	82	140
%-U10m			**9**	**5**	**9**	**10**	**7**	**10**	**17**	**16**
7e	3a	HAD	14	10	17	22	30	38	55	128
7e	3b	HAD	4	8	3	3	1	1	4	2
7e	none	HAD	384	362	492	703	1023	1166	1439	3975
Sum_O10m		HAD	402	380	512	728	1054	1205	1498	4105
Sum_U10m		HAD	3	7	7	27	37	28	58	94
%-U10m			**1**	**2**	**1**	**4**	**4**	**2**	**4**	**2**
7e	3a	HKE	6	6	6	3	10	12	7	4
7e	3b	HKE	114	98	60	19	9	3	7	12
7e	none	HKE	179	205	117	88	102	109	97	156
Sum_O10m		HKE	299	309	183	110	121	124	111	172
Sum_U10m		HKE	1	2	1	1	2	3	4	3
%-U10m			**0**	**1**	**1**	**1**	**2**	**2**	**4**	**2**
7e	3a	NEP	0	0	0	0	0	0		0
7e	3b	NEP		0	0	0	0	0	0	0
7e	none	NEP	8	13	6	10	9	9	16	15
Sum_O10m		NEP	8	13	6	10	9	9	16	15
Sum_U10m		NEP	0	0	0	0	0	4	0	0
%-U10m			**0**	**0**	**0**	**0**	**0**	**44**	**0**	**0**
7e	3a	PLE	801	767	743	571	547	581	627	726
7e	3b	PLE	19	24	13	7	4	6	7	8
7e	none	PLE	242	279	322	255	261	274	324	448
Sum_O10m		PLE	1062	1070	1078	833	812	861	958	1182
Sum_U10m		PLE	82	67	130	104	75	68	104	111
%-U10m			**8**	**6**	**12**	**12**	**9**	**8**	**11**	**9**
7e	3a	POK	1	0	0	0	0	0	0	0
7e	3b	POK	11	17	3	1	1	3	5	3
7e	none	POK	5	2	3	1	1	1	16	1
Sum_O10m		POK	17	19	6	2	2	4	21	4
Sum_U10m		POK	1	1	0	0	0	2	1	2
%-U10m			**6**	**5**	**0**	**0**	**0**	**50**	**5**	**50**
7e	3a	SOL	184	486	530	497	430	347	376	430
7e	3b	SOL	49	71	41	49	45	48	22	49
7e	none	SOL	192	300	268	273	232	222	197	225
Sum_O10m		SOL	425	857	839	819	707	617	595	704
Sum_U10m		SOL	58	73	85	85	52	45	68	86
%-U10m			**14**	**9**	**10**	**10**	**7**	**7**	**11**	**12**
7e	3a	WHG	61	53	45	46	48	38	30	32
7e	3b	WHG	7	6	11	8	6	5	10	16
7e	none	WHG	1352	1478	1293	1407	1501	1729	1779	2398
Sum_O10m		WHG	1420	1537	1349	1461	1555	1772	1819	2446
Sum_U10m		WHG	79	53	71	123	127	141	154	124
%-U10m			**6**	**3**	**5**	**8**	**8**	**8**	**8**	**5**

5.8.7 Evaluation of fully documented fisheries FDF

5.8.7.1 Fishing effort of FDF by Member State and fisheries in comparison with fisheries not working under FDF provisions

There is no information available at the moment of vessels operational under the FDF provisions in area VIIe.

5.8.7.2 Catches (landings and discards) of cod and other species taken by FDF fisheries by Member State and fisheries in comparison with fisheries not working under FDF provisions

There is no information available at the moment of vessels operational under the FDF provisions in area VIIe.

5.8.8 ToR 4 Spatio-temporal patterns in effective effort by fisheries

Figure 5.8.8.1 shows the spatial distribution of the effective fishing effort for beam trawl fleets with mesh size ≥80mm (3a) during the period 2003 to 2011. The pattern seems similar for the whole period with higher effort deployed south of Devon.

Figure 5.8.8.2 shows the spatial distribution of the effective fishing effort for static nets with mesh size <220mm (3b) during the period 2003 to 2011. The fishing effort pattern is rather homogeneous over the whole VIIe area and full time series with occasional higher densities of activities along the most southern point of the English coast and off the French coast from Saint-Malo .

Figure 5.8.8.3 shows the spatial distribution of the effective fishing effort for the unregulated beam trawl fleet with no mesh size provided or mesh size < 80mm during the period 2003 to 2011. Since 2008, the effort which was predominantly deployed on the English coast and the French coast north of Cherbourg, has substantially decreased in all rectangles.

Figure 5.8.8.4 shows the spatial distribution of the effective fishing effort for the unregulated demersal seine during the period 2003 to 2011. The years 2003 and 2004 only indicate activities in 1 rectangle. Since 2005 most effort deployed in the same rectangles off the English coast with a substantial increase in the last 3 years, especially south of Dorcet up to the French coast.

Figure 5.8.8.5 shows the spatial distribution of the effective fishing effort for the unregulated dredges during the period 2003 to 2011. Most effort deployed off the English coast and off the coast of Saint Malo. It should also be noted that for the whole time series dredge effort is also deployed, in lower concentrations, over the whole VIIe area.

Figure 5.8.8.6 shows the spatial distribution of the effective fishing effort for the unregulated gill nets during the period 2003 to 2011. A similar pattern of effort deployment for all years over almost the whole VIIe area, with higher concentrations on the most southern part of the English coast and off the coast of Saint-Malo. In 2010 and 2011 their appear to be less effort deployed along the French coast.

Figure 5.8.8.7 shows the spatial distribution of the effective fishing effort for the unregulated longlines during the period 2003 to 2011. Again, a similar pattern of effort deployment for all years over almost the whole VIIe area, with the highest concentrations along the English coast off Brixham.

Figure 5.8.8.8 shows the spatial distribution of the effective fishing effort for the unregulated otter trawls during the period 2003 to 2011. From 2003 until 2011 a similar pattern of effort deployment

over almost the whole VIIe area with higher concentrations along the English coast and off the coast of Saint Malo.

Figure 5.8.8.9 shows the spatial distribution of the effective fishing effort for the unregulated pelagic seine during the period 2003 to 2011. Very sparce patches of effort deployment, predominantly along the French coast off Brest.

Figure 5.8.8.10 shows the spatial distribution of the effective fishing effort for the unregulated pelagic trawls during the period 2003 to 2011. A similar pattern of effort deployment for all years over almost the whole VIIe area, with the highest concentrations on the English coast off Brixham.

Figure 5.8.8.11 shows the spatial distribution of the effective fishing effort for the unregulated pots during the period 2003 to 2011. A similar pattern of effort deployment for all years, predominantly along the English coast and the French coast off Saint Malo.

Figure 5.8.8.12 shows the spatial distribution of the effective fishing effort for the unregulated trammel nets during the period 2003 to 2011. A similar pattern of effort deployment for all years, with the highest concentrations predominantly off the French coast.

Figure 5.8.8.13 shows the spatial distribution of the effective fishing effort for the unregulated gear ("none-none"), gears without mesh size given during the period 2003 to 2011.A similar pattern of effort deployment for all years, predominantly off the French coast with relatively high values in particularly off Brest. STECF notes that these relative high values only represents a very small amount of the total effort deployed in VIIe.

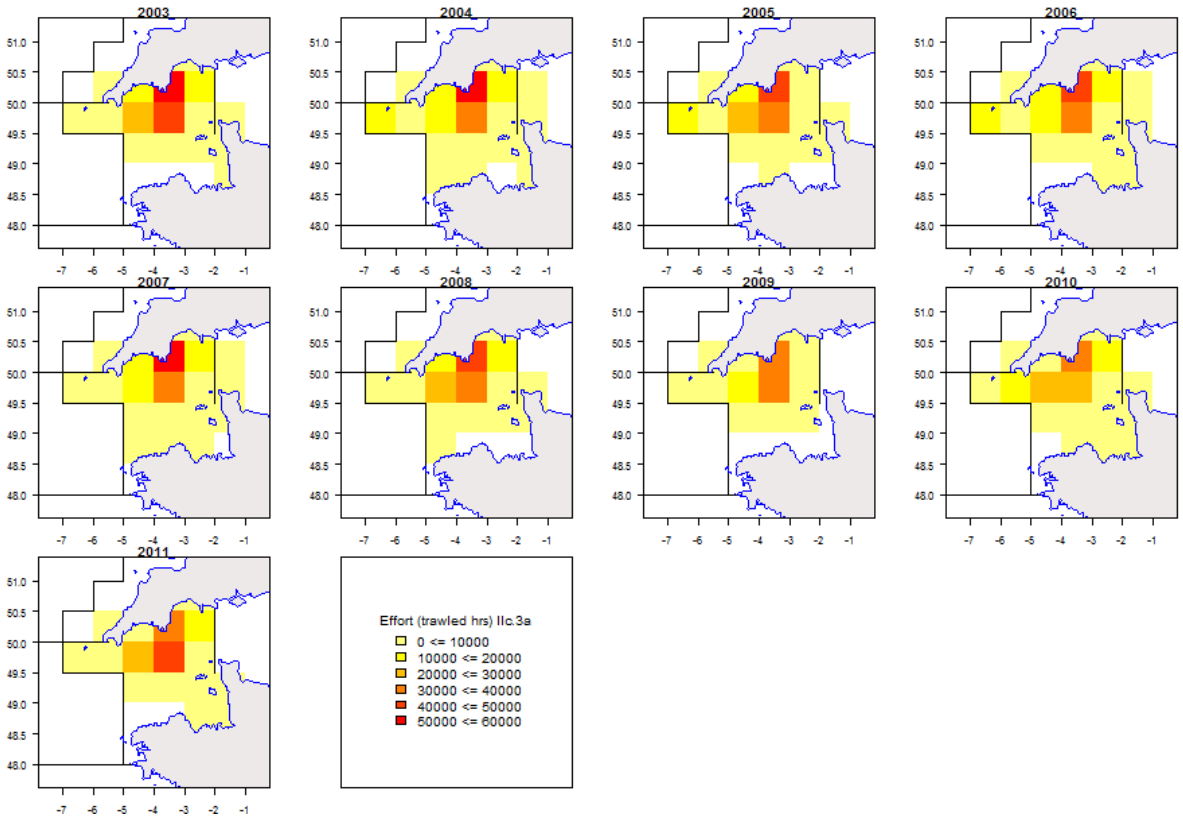


Figure 5.8.8.1. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for the Beam trawl fleet with mesh size ≥80 mm(3a), 2003-2011.

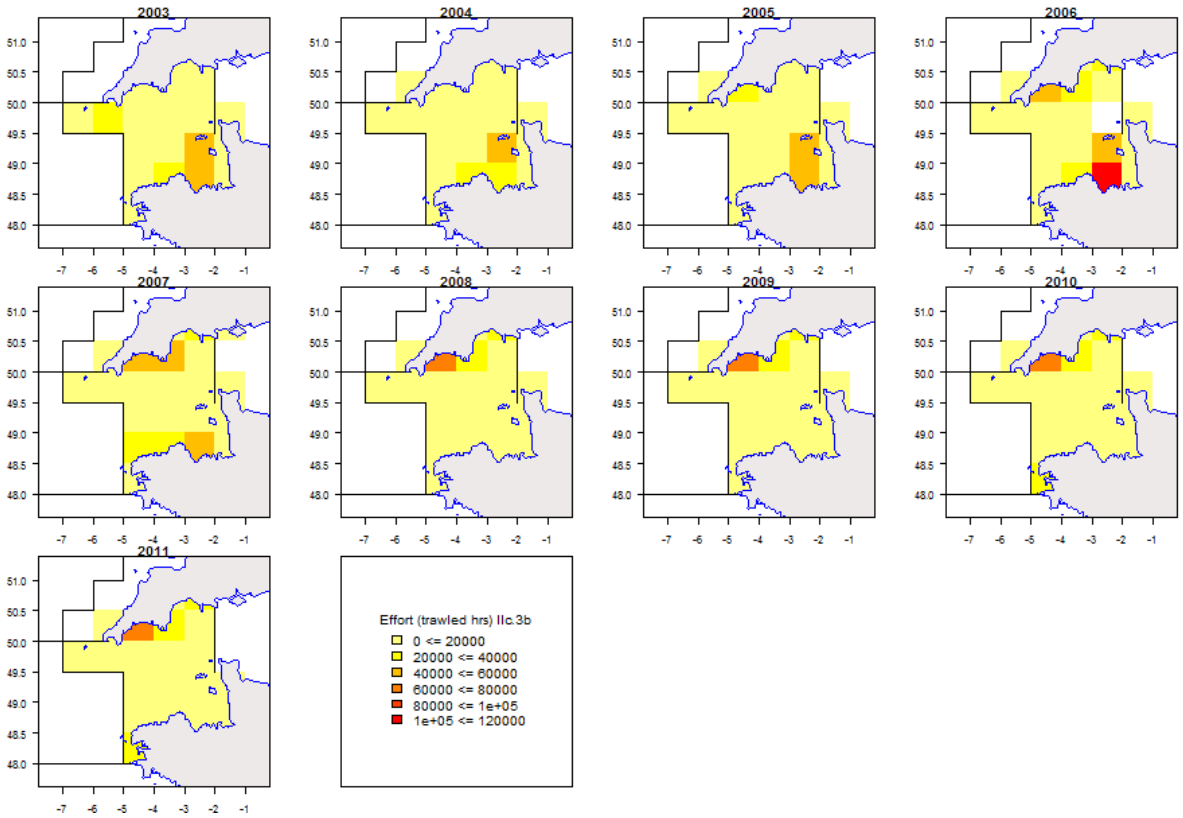


Figure 5.8.8.2. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for static nets with mesh size <220mm (3b), 2003-2011.

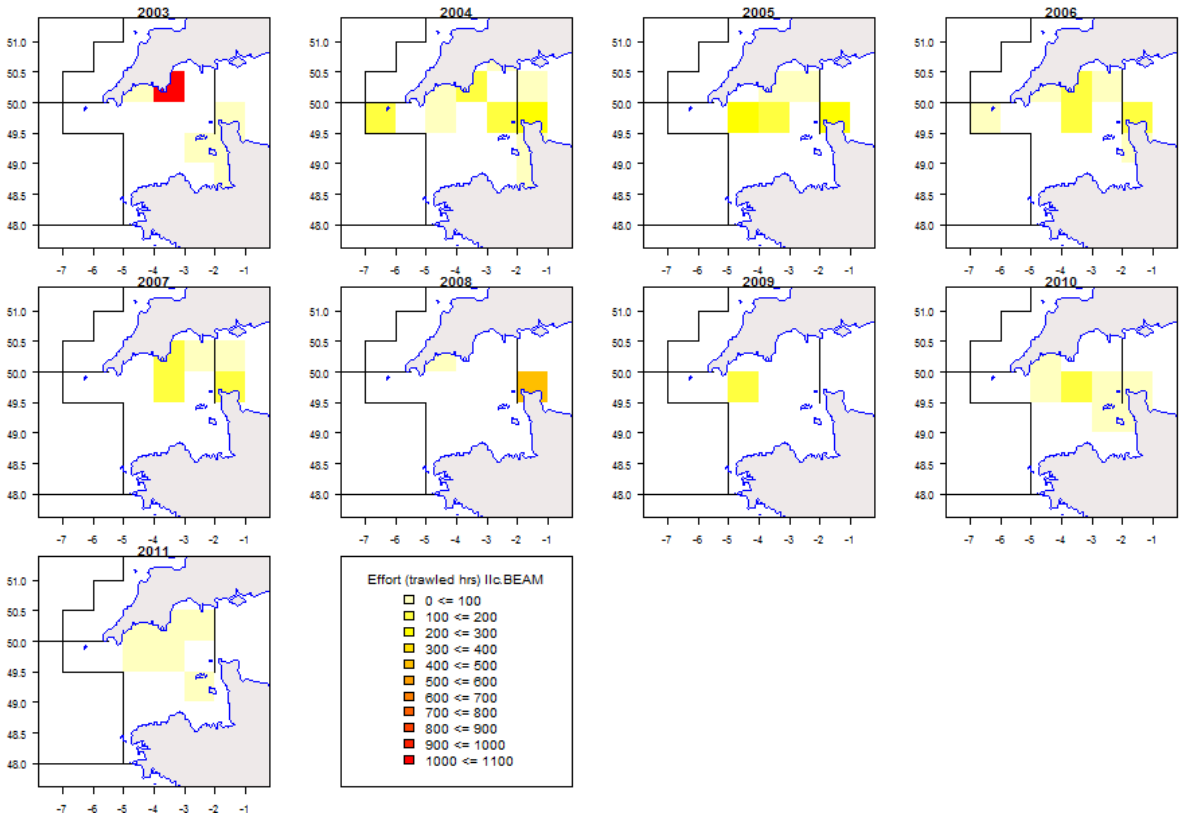


Figure 5.8.8.3. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Beam trawl fleet with no mesh size provided or mesh size <80 mm, 2003-2011.

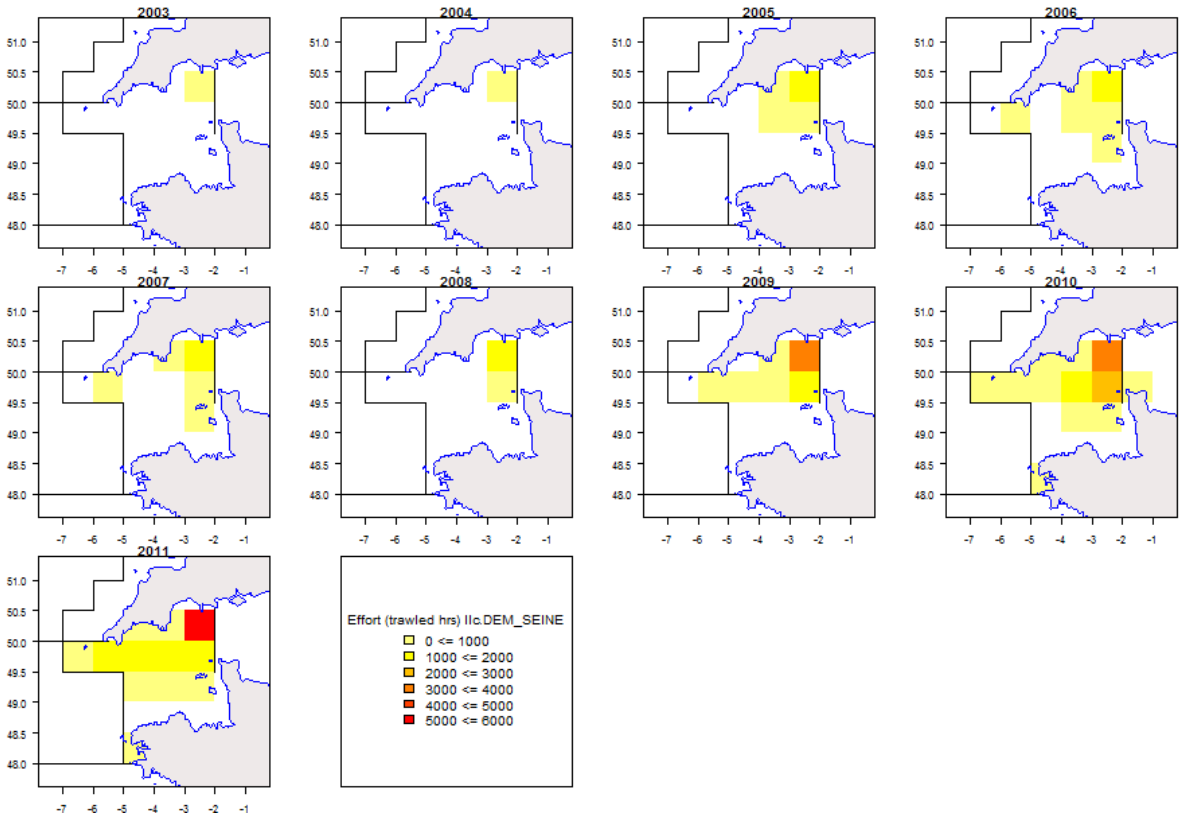


Figure 5.8.8.4. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Demersal Seine, 2003-2011.

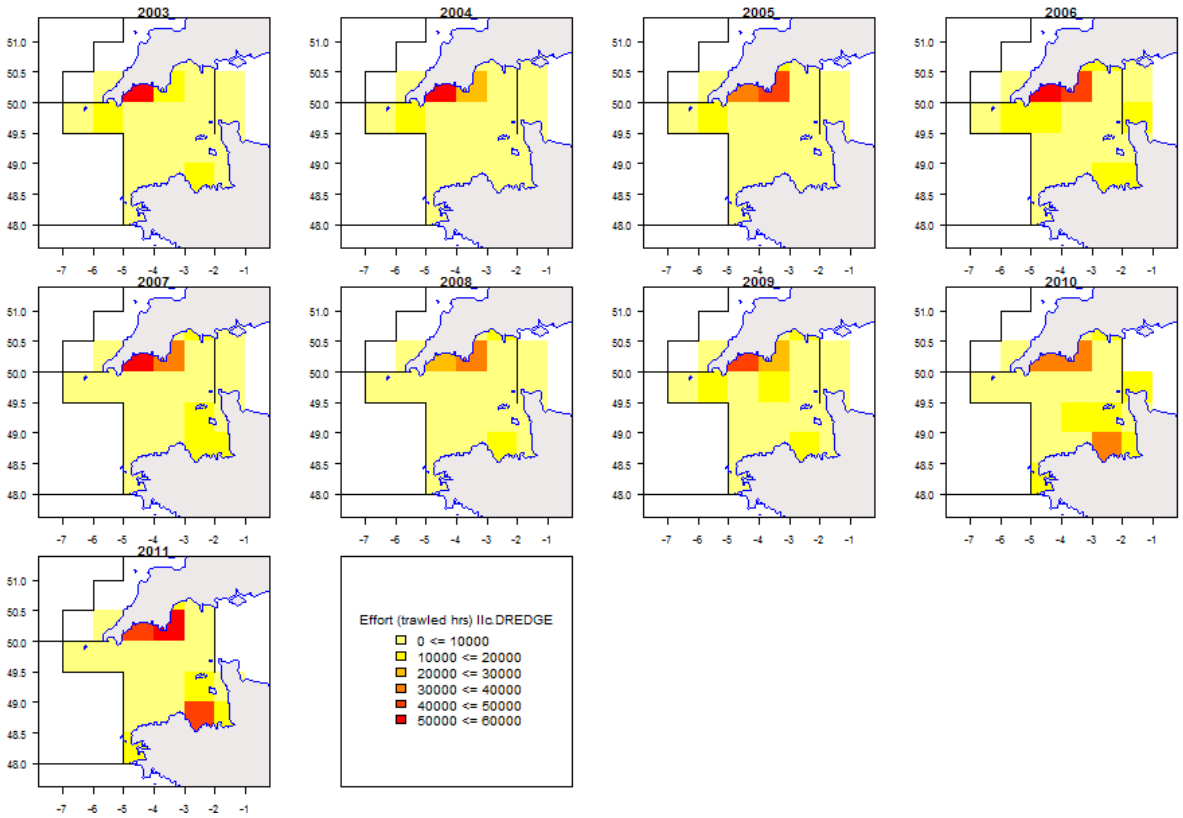


Figure 5.8.8.5. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Dredges, 2003-2011.

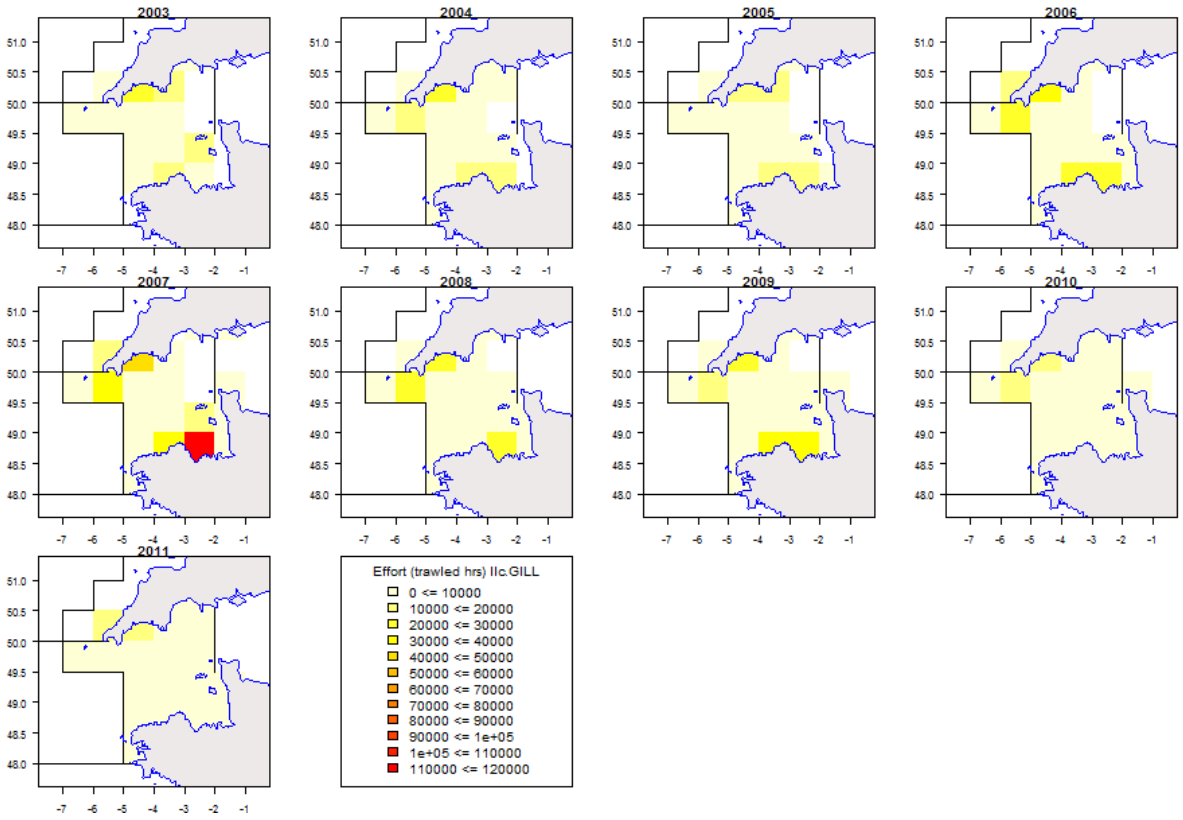


Figure 5.8.8.6. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Gill nets, 2003-2011.

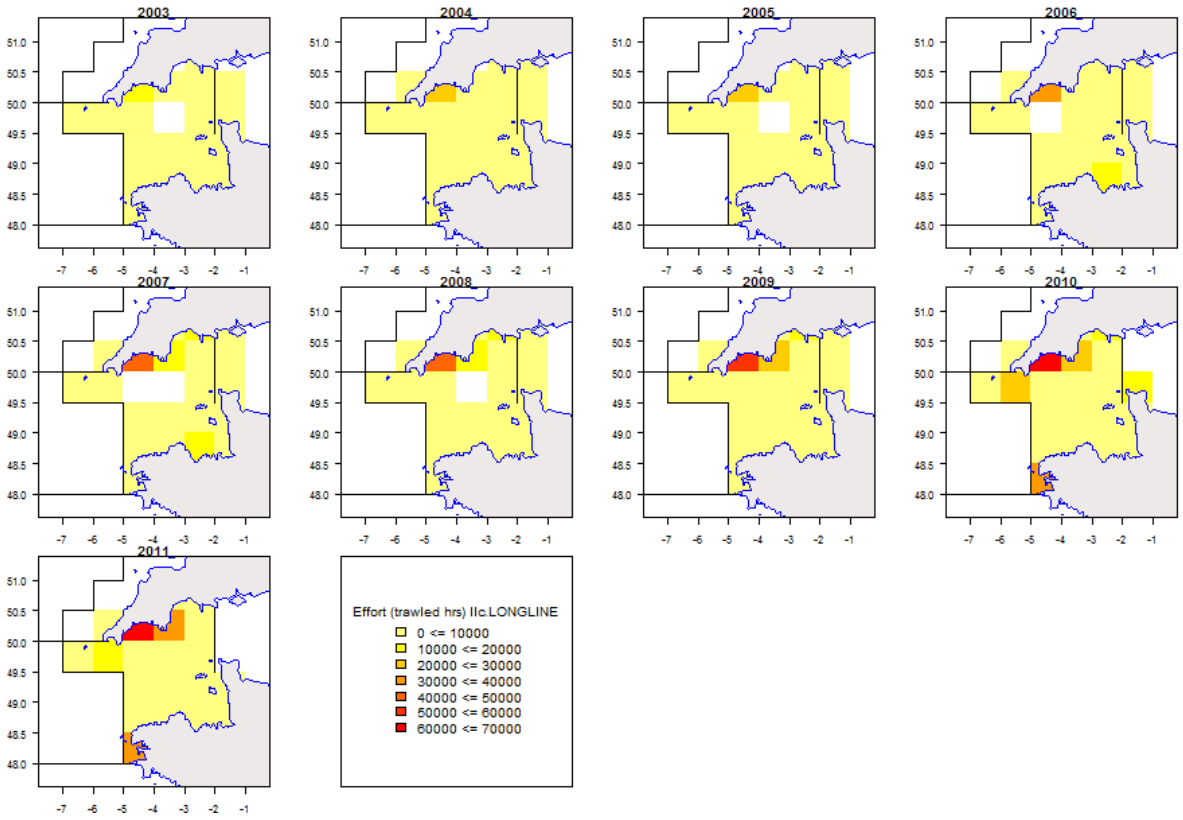


Figure 5.8.8.7. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Longlines, 2003-2011.

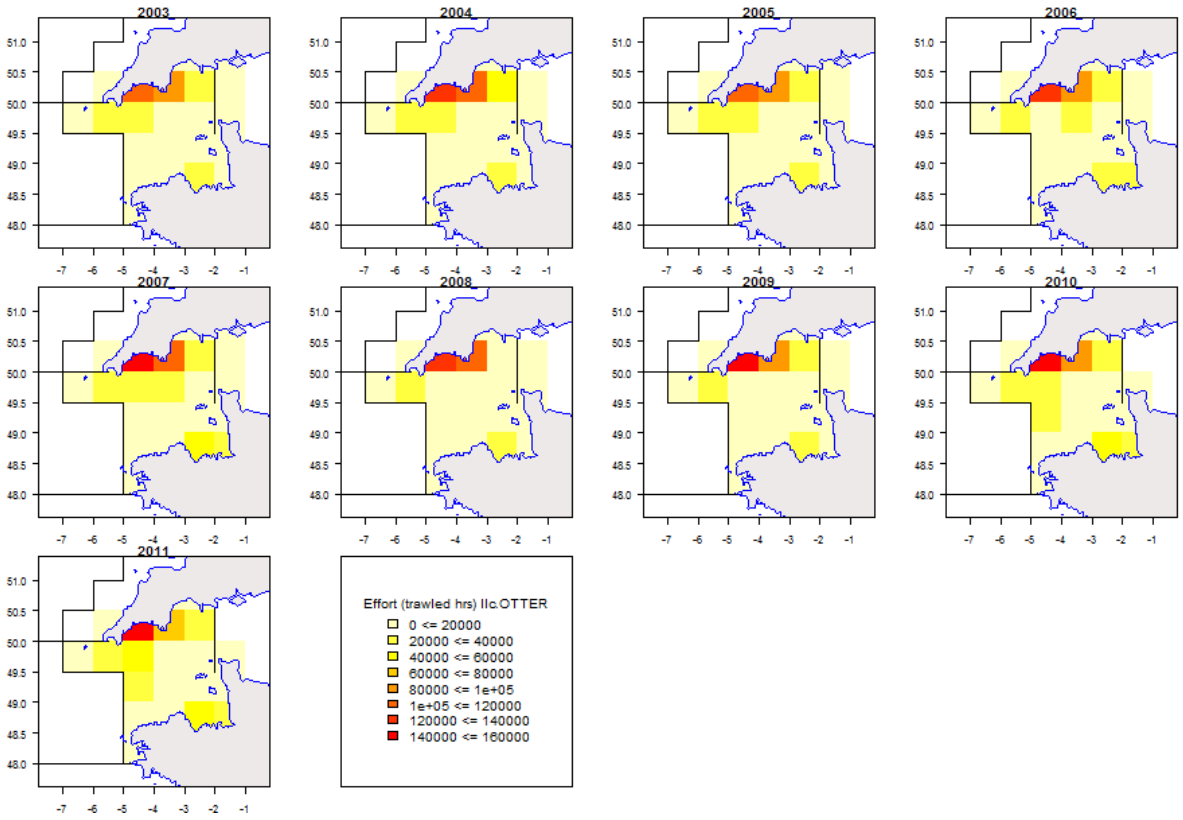


Figure 5.8.8.8. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Otter Trawl, 2003-2011.

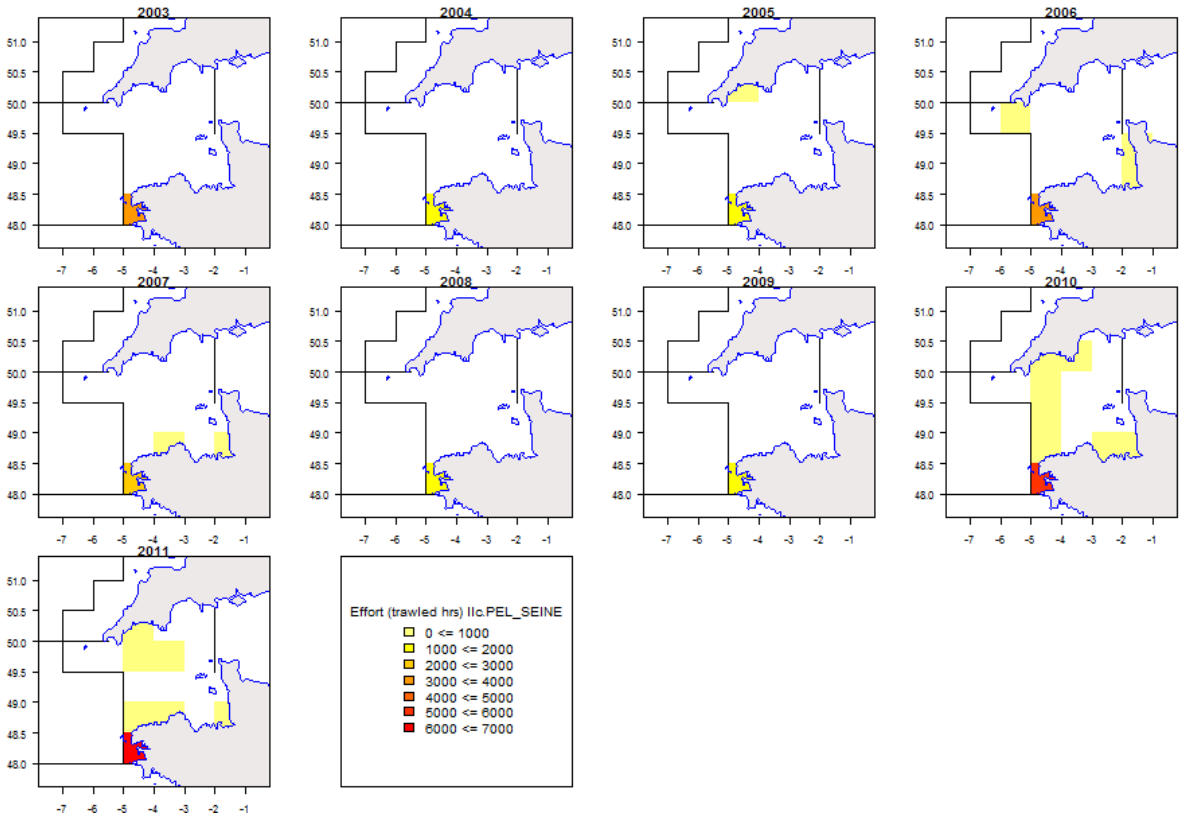


Figure 5.8.8.9. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Pelagic Seine, 2003-2011.

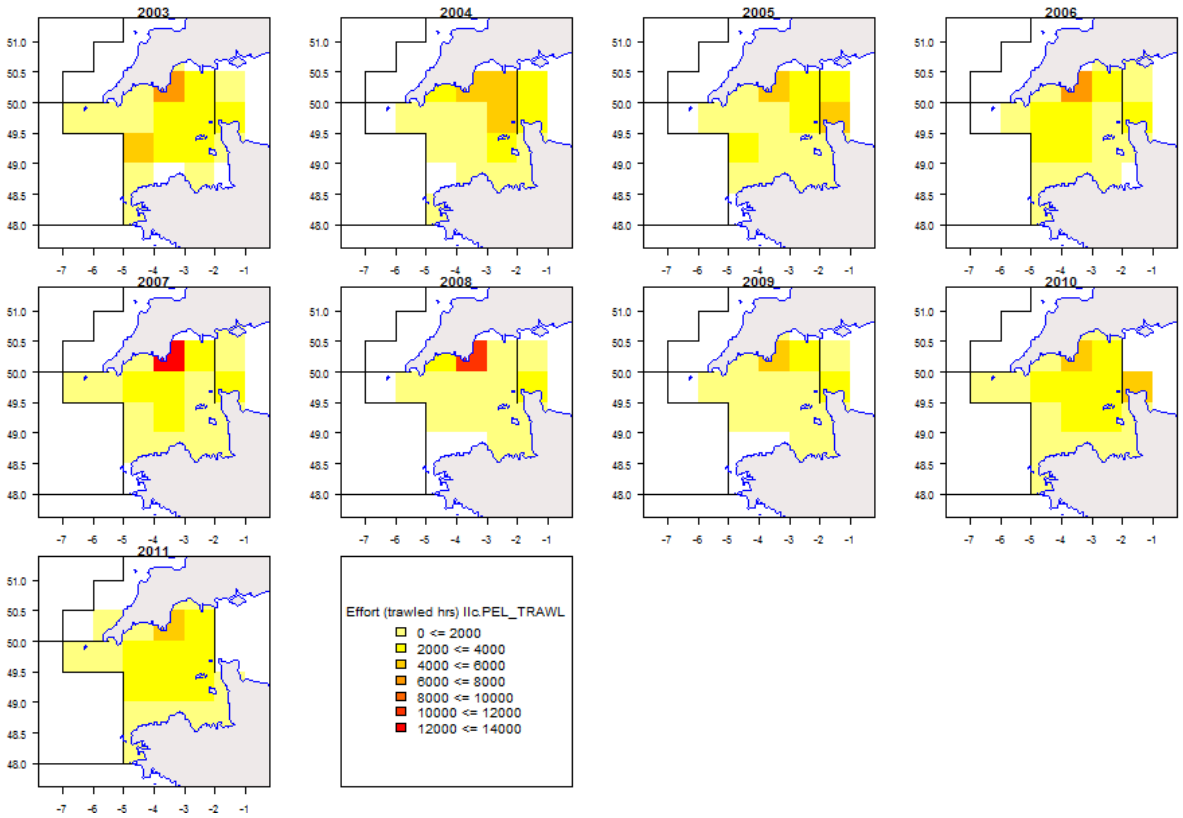


Figure 5.8.8.10. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Pelagic Trawl, 2003-2011.

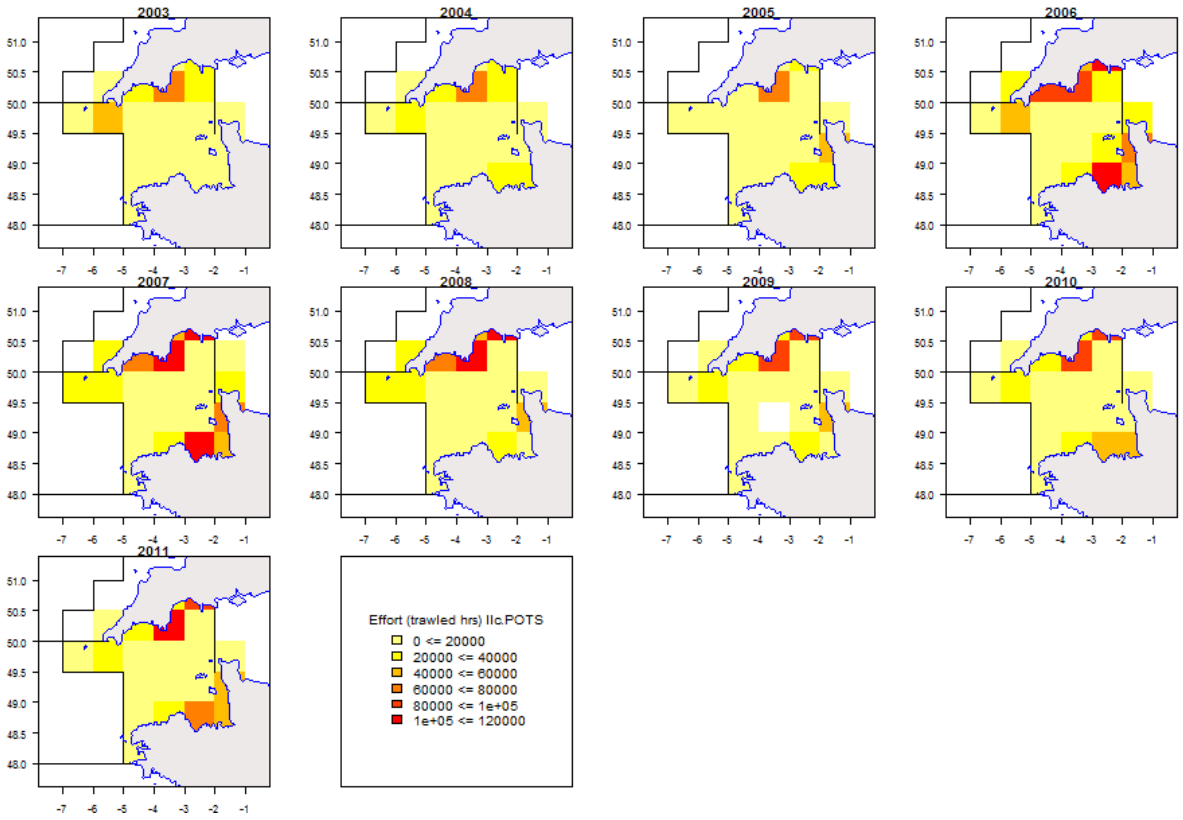


Figure 5.8.8.11. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Pots, 2003-2011.

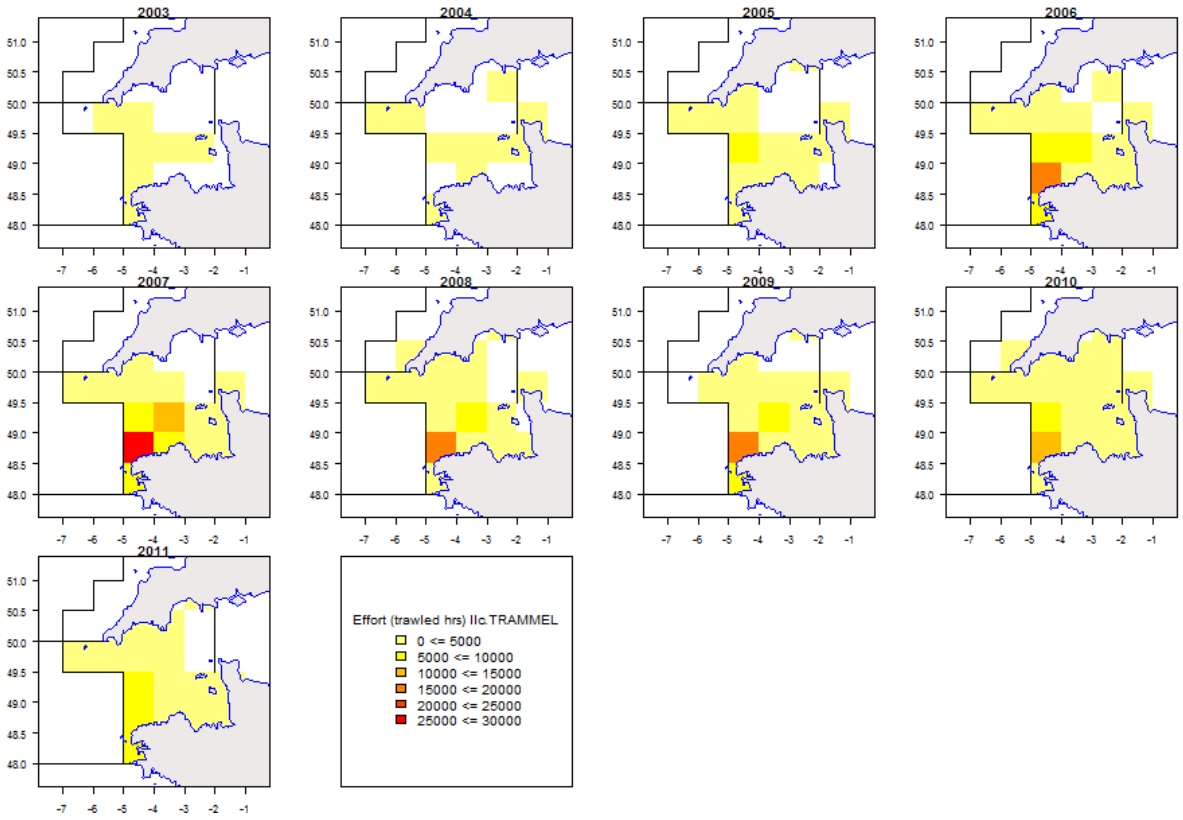


Figure 5.8.8.12. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Trammel nets, 2003-2011.

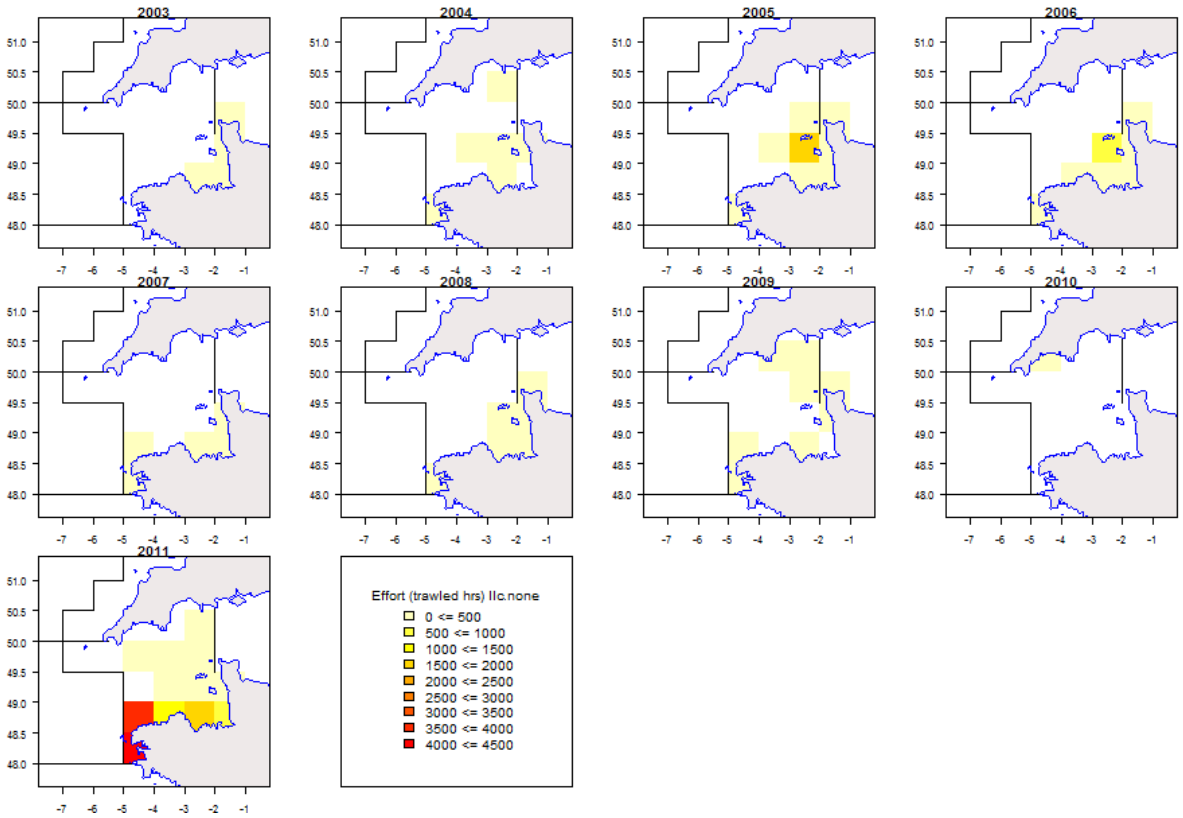


Figure 5.8.8.13. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for None ("none-none"), gears without mesh size given, 2003-2011.

5.8.9 ToR 5 Trend in calculated maximum effort of regulated gears and uptake by Member State

Table 5.8.9.1 lists the effort in units of days at sea estimated for the effort regulated fisheries by Member State. However, the time series is only considered complete for the two most recent years 2010 and 2011 due to data gaps. Unlike the situation in the Baltic, the definitions of few fisheries and specific days at sea allocations to them allow the assessment of the effort uptake from the numbers of boats using effort regulated gears, assuming no major changes in gears used. Multiple counting of vessels (overestimation) is implied from vessels using more than one regulated gear. The maximum numbers of days available for such fisheries, i.e. the maximum days at sea per vessel multiplied with the number of vessels, are given in the right part of the Table 5.8.9.1. In 2011, the effort regime appears not constraining the fisheries, which have only used between 10 and 79% of the days at sea available.

Table 5.8.9.1 Western Channel - Trend in days at sea by existing derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2012) and Member State, 2004-2011. Maximum days at sea are calculated from number of vessels multiplied with the maximum days allowed per vessel. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in Section 4 of the report.

REG GEAR COD	SPECON	COUNTRY	2004	2005	2006	2007	2008	2009	2010	2011	Vessels-2011	Max days	%-used
3a	none	BEL			670	810	542	174	342	516	33	5412	10
3a	none	ENG								5687	44	7216	79
3a	none	FRA							1271	914	8	1312	70
3a	none	GBJ											
3a	none	IRL											
3a	none	NLD											
3a	none	SCO											
3a Total	**none**				**670**	**810**	**542**	**174**	**1613**	**7117**	**85**	**13940**	51
3b	none	ENG								752	12	1968	38
3b	none	FRA							1830	1780	22	3608	49
3b	none	SCO											
3b Total	**none**								**1830**	**2532**	**34**	**5576**	45
none	none	BEL						20	17		20		
none	none	DEU						4	34	12	1		
none	none	DNK											
none	none	ENG								18384	158		
none	none	FRA							52225	54427	654		
none	none	GBG								180	2		
none	none	GBJ								191	3		
none	none	IOM											
none	none	IRL									2		
none	none	LTU									1		
none	none	NIR											
none	none	NLD								468	17		
none	none	SCO									19		
none Total	**none**		**0**	**0**	**0**	**0**	**0**	**24**	**52276**	**73662**	**877**		
Grand Total	**none**				**670**	**810**	**542**	**198**	**55719**	**83311**	**996**		

5.8.10 ToR 6 Any unexpected evolutions of the trends in catches and effort by Member State and fisheries

STECF EWG 12-12 reiterates its observation that a relatively high percentage of sole are landed by non-effort regulated gears.

5.8.11 ToR 7 Correlation between partial cod mortality and fishing effort by Member State and fisheries

The STECF EWG presents partial fishing mortalities by major fisheries and Member States in relation to the estimated fishing mortality by ICES (2012) and the landings volumes in relation to the estimated total landings for the years available. There is very limited information on discards. The full list of all fisheries can be downloaded from the EWG's web page.

Table 5.8.11.1 lists the fishing mortalities anticipated from the management plan as well as those estimated by ICES 2012. It can be concluded from the estimated F (Table 5.8.11.1) that the stock is sustainably exploited since 2009 (Fmsy=0.27), assuming that discarding is negligible. Since 2009, the estimated partial Fs of the effort regulated gear groups contributed about 60% to the overall fishing mortality. The remainder is then contributed by other gear groups not regulated by fishing effort and additional unallocated removals considered by ICES. The presented parameters r (absolute value of Pearson's coefficient of correlation), numbers of points considered, as well as a p value to quantify the statistical significance (≤ 0.05) allow conclusions about the quality of the correlation between the partial F and fisheries specific fishing effort.

Figure 5.8.11.1 shows the correlation between the partial F's and the effort for the main fisheries, using the full time series available (2003-2011). It is apparent from the "combined fleet" panel that the 2003 and 2004 data are outliers. It was noted however that for 2003 and 2004, the DCF data do represent only about 50% of the landings reported to ICES. As the adjustments to the ICES data in those years were predominantly done for the English beam trawl fleet (3a), catching most of the sole, it is not surprising that these two data year also appear as outliers for the English beam trawl fleet (ENG 3a). Therefore STECF decided to exclude the first two years of data for the partial F analysis.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for landings of the major fisheries and their estimated fishing efforts are significant for the period 2005-2011 (Table 5.8.11.1). The partial Fs of Belgian and English fisheries using the regulated gear 3a, accounting for about 53% of the landings, are closely correlated with their specific effort estimates in kW days at sea. Also the unregulated French otter trawl fleet, taking about 24% of the sole landings, has a significant correlation between partial F and kW days at sea.

However for the French regulated fisheries (3a and 3b), which represent just about 10% of the sole landings, the correlation between F and effort (kWdays) is statistically not significant. This indicates that effective fisheries management for sole in ICES Division VIIe by fishing effort in units of kWdays at sea appears possible, also an auxiliary measure to catch constraints and technical measures.

STECF EWG 12-12 notes that if a fishing effort regime in the Western Channel is to be maintained, it shall consider an appropriate measure of effective unit of fishing effort to account for vessel size/power and gear effectiveness.

Table 5.8.11.1 Western Channel sole. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 sole assessment, as well as partial Fs for landings of fisheries using regulated gears. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock.

2007 F reductions by 20 percent unitl F<=Fmsy=0.27										Reference year					
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F plan							0.256	0.306	0.337	0.357	0.286	0.27	0.27	0.27	0.27	0.27
reduction F plan											-0.20	-0.06	0.00	0.00	0.00	0.00
F estimated							0.256	0.306	0.337	0.357	0.363	0.33	0.224	0.222	0.235	
reduction F estimated											0.02	-0.09	-0.32	-0.01	0.06	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011	
IIc	7e	SOL	BEL	3a	none	landings	0.000	0.002	0.008	0.011	0.012	0.009	0.005	0.005	0.006	
IIc	7e	SOL	ENG	3a	none	landings	0.043	0.036	0.134	0.163	0.153	0.136	0.096	0.095	0.103	
IIc	7e	SOL	ENG	3b	none	landings	0.000	0.000	0.000	0.000	0.002	0.003	0.003	0.001	0.002	
IIc	7e	SOL	FRA	3a	none	landings	0.0014	0.0122	0.0094	0.0108	0.0118	0.012	0.0102	0.02	0.0176	
IIc	7e	SOL	FRA	3b	none	landings	0.0066	0.0137	0.0227	0.014	0.0157	0.0138	0.0121	0.006	0.0129	
IIc	7e	SOL	GBJ	3a	none	landings	0.0031	0.002	0.0062	0	0	0	0	0	0	
IIc	7e	SOL	IRL	3a	none	landings	0.0002	0	0	0	0.0007	0	0	0	0	
Sum							0.0544	0.0664	0.1807	0.1993	0.1953	0.1726	0.1261	0.1266	0.1406	
check sum Fpar/F							0.2125	0.217	0.5362	0.5583	0.538	0.523	0.5629	0.5703	0.5983	

Effort kW days running previous year baseline														
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012				
Effort plan/ TAC regulations not applicable as days at sea per vessel														
reduction														
Effort estimated	5057647	5845003	5441022	5599174	5218704	4323044	3410663	3328167	3367806					
						-0.17	-0.21	-0.02	0.01		2003-2011			
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n		
	211491	633428	689624	628907	837161	584560	358399	383303	450341	0.748	0.020	9		
	3374514	3206806	3227096	3283897	3021075	2870177	2197118	2227991	2318845	0.009	0.982	9		
	323618	206294	178818	153434	103278	104187	104045	109255	118156	-0.670	0.048	9		
	45086	317275	261700	289867	320576	146443	138669	303078	200030	0.583	0.099	9		
	956465	1236654	946127	1236595	920004	615534	611990	304540	280434	0.353	0.351	9		
	122867	209969	121139	0	0	0	0	0	0	NA	NA	3		
	23606	34577	16518	6474	16610	2143	442	0	0	0.192	0.681	7		
											2005-2011			
	5057647	5845003	5441022	5599174	5218704	4323044	3410663	3328167	3367806	0.955	0.001	7		

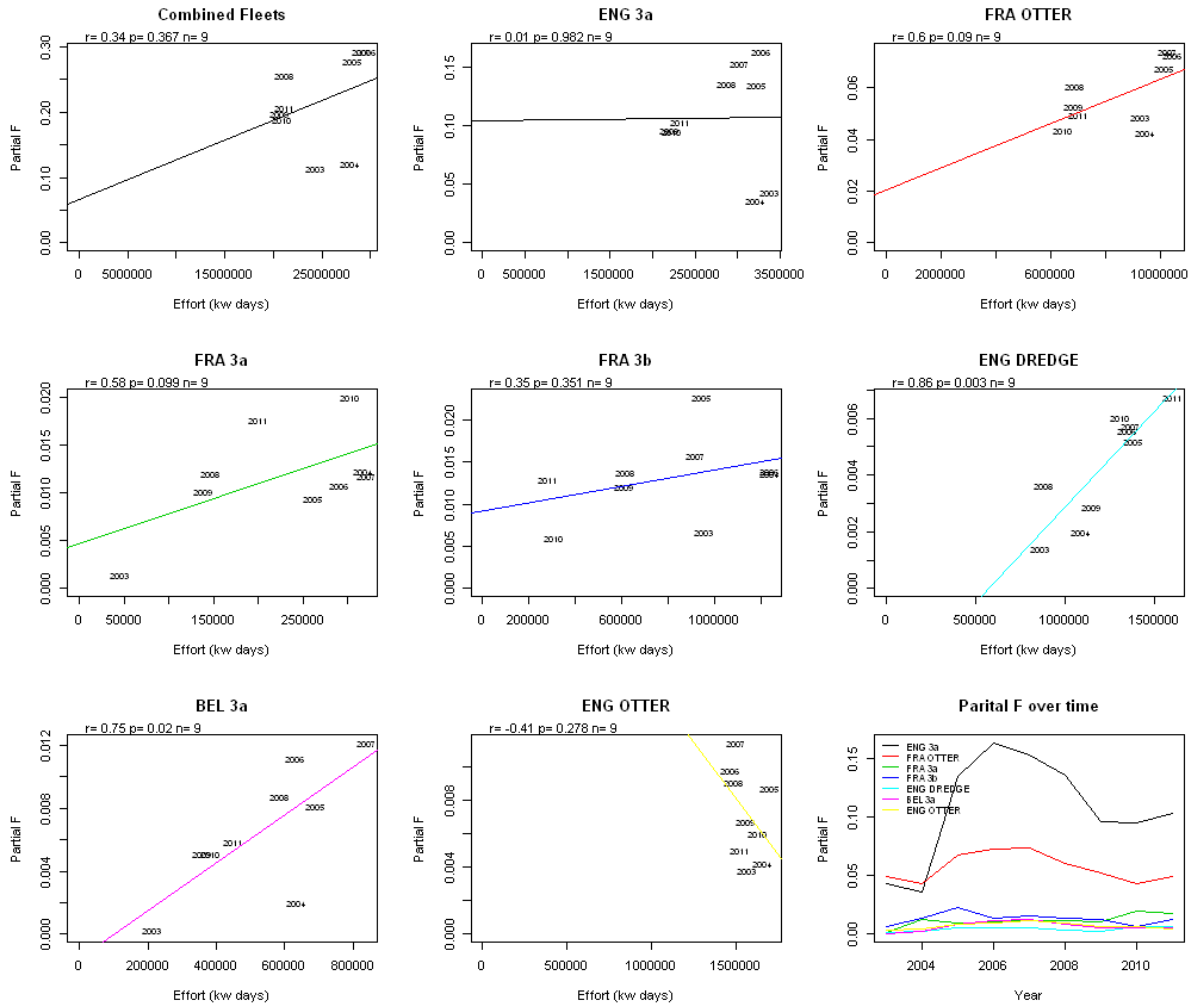


Fig. 5.8.11.1 Western Channel sole. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) of major fisheries, 2003-2011. R = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated.

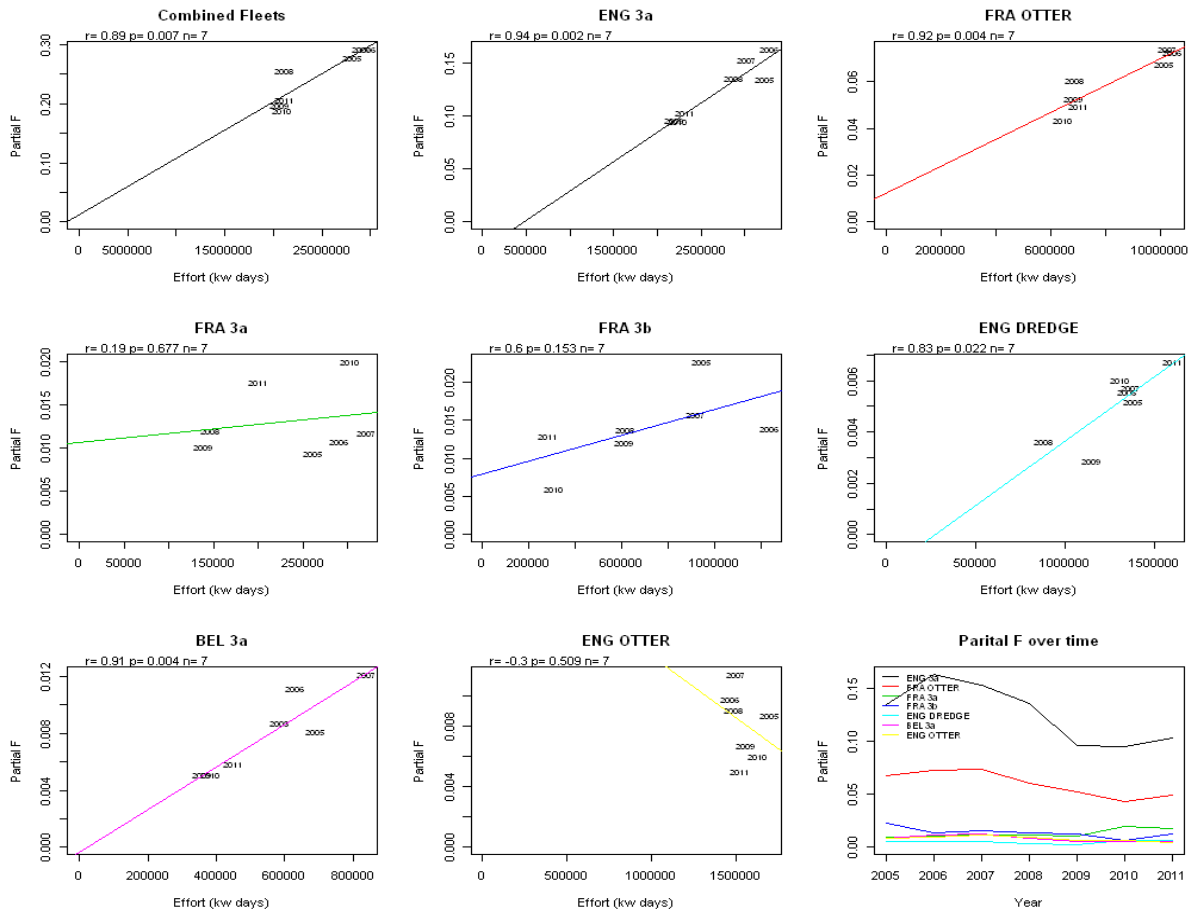


Fig. 5.8.11.2 Western Channel sole. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) of major fisheries, 2005-2011. R = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated.

5.8.12 ToR 8 Considerations in order to accomplish spatio-temoral patterns in standardized catchability indices for sole

The STECF EWG 12-12 discussed the formulation of catchability by rectangle within the Western Channel. It was decided that the area is too small to produce meaningful catchability indices

5.8.13 ToR 9 Discard estimates of sole in 2011 for specific fisheries with additional quota allocations

STECF EWG 12-12 notes that discard information is scarce and inadequate to support provision of the requested 2011 discard estimates for specific fisheries with additional quota allocations. The landings and discards for sole by the regulated gear 3a (beam trawl >=80) by UK which accounts for about 50% of total catches are estimated as:

Annex	Species	Year	Area	Country	Reg_Gear	Landings (t)	Discards (t)	Discard rate
IIC	sol	2011	7e	ENG	3a	349.807	21.961	0.059

5.9 Deep Sea and Western Waters effort regime evaluations

Details of the Deep Sea Regulations can be found in COUNCIL REGULATION (EC) No 2347/2002.

The format for presenting Deep Sea information was discussed during the July 2009 SGMOS meeting when experts with particular knowledge were present. It was agreed that the most useful presentation would be data summarised on a regional approach so as to identify geographic differences in effort distribution by key member states and important gears. It was decided that regions would be based on ICES areas. It may be the case that similarities between some of these areas would allow areas to be combined in future summaries. Where an ICES area contained waters within EU jurisdiction and waters outside of this, separate summaries are provided where data allow.

In this section of the report tables showing effort by gear groups (regulated and unregulated), area and nation are only summaries. The full tables are available on the JRC website: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

It should be noted that Spain has not provided data for 2010 and 2011.

Details of the Western Waters regulations and its geographical extent can be found in the regulation COUNCIL REGULATION (EC) No 1415/2004.

The EWG experienced extreme difficulties in preparing these data and the interpretation of them is confounded by uncertainty in the western waters data summaries for some member states most notably Portugal, France and Spain. **SINCE THESE COUNTRIES OPERATE EXTENSIVELY IN THE WESTERN WATERS AREAS AND ARE LIKELY TO CONTRIBUTE A SIGNIFICANT PROPORTION TO THE OVERALL EFFORT COVERED BY THIS REGULATION, THE DATA SHORTFALL IMPLIES THAT OVERALL EFFORT FIGURES REMAIN UNRELIABLE.**

The EWG database records effort in the areas covered by the Western waters regulation including effort which becomes categorised as ‘deep sea’. Since these two regulations are legislated to be non-overlapping, columns are included to show the western waters effort without the deep sea.

Table 5.9.1. COUNCIL REGULATION (EC) No 2347/2002 Annex I and 2 species list:

Code	Annex	Scientific name	Common name
ALF	1	*Beryx* spp	Alfonsinos
APQ	1	*Apristurus laurussonii*	Iceland catchark
ARU	1	*Argentina silus*	Greater silver smelt
BLI	1	*Molva dypterygia*	Blue ling
BSF	1	*Aphanopus carbo*	Black scabbard
CFB	1	*Centroscyllium fabricii*	Black dogfish
CYO	1	*Centroscymnus coelolepis*	Portuguese dogfish
CYP	1	*Centroscymnus crepidater*	Longnose velvet dogfish
DCA	1	*Deania calcea*	Birdbeak dogfish
ETR	1	*Etmopterus princeps*	Greater lantern shark
ETX	1	*Etmopterus spinax*	Velvet belly
FOX	1	*Phycis blennoides*	Forkbeards
GAM	1	*Galeus murinus*	Mouse catshark
GSK	1	*Somniosus microcephalus*	Greenland shark
GUP	1	*Centrophorus granulosus*	Gulper shark
GUQ	1	*Centrophorus squamosus*	Leafscale gulper shark
HXC	1	*Chlamydoselachus anguineus*	Frilled shark
ORY	1	*Hoplostethus atlanticus*	Orange roughy
OXN	1	*Oxynotus paradoxus*	Sharpback shark
RNG	1	*Coryphaenoides rupestris*	Roundnose grenadier
SBL	1	*Hexanchus griseus*	Six-gilled shark
SCK	1	*Dalatias licha*	Kitefin shark
SHO	1	*Galeus melastomus*	Blackmouth dogfish
SYR	1	*Scymnodon ringens*	Knifetooth dogfish
ALC	2	*Alepocephalus bairdii*	Baird's smoothhead
ANT	2	*Antimora rostrata*	Blue antimora
BRF	2	*Helicolenus dactylopterus*	Blue mouth redfish
CMO	2	*Chimaera monstrosa*	Rabbitfish
COE	2	*Conger conger*	Conger eel
CYH	2	*Hydrolagus mirabilis*	Large-eyed rabbitfish
ELZ	2	*Lycodes esmarkii*	Eelpout
EPI	2	*Epigonus telescopus*	Black cardinal fish
HPR	2	*Hoplostethus mediterraneus*	Silver roughy
JAD	2	*Dipturus nidarosiensis*	Norwegian skate
KEF	2	*Chaceon affinis*	Deep-water red crab
PHO	2	*Alepocephalus rostratus*	Risso's smoothhead
RCT	2	*Rhinochimaera atlantica*	Straightnose rabbitfish
RHG	2	*Macrourus berglax*	Roughhead grenadier
RIB	2	*Mora moro*	Common mora
RJG	2	*Amblyraja hyperborea*	Arctic skate
RJY	2	*Rajella fyllae*	Round skate
SBR	2	*Pagellus bogaraveo*	Red (blackspot) seabream
SFS	2	*Lepidopus caudatus*	Silver scabbard fish
SFV	2	*Sebastes viviparus*	Small redfish
TJX	2	*Trachyscorpia cristulata*	Spiny (deep sea) scorpionfish
WRF	2	*Polyprion americanus*	Wreckfish

5.9.1 ToR 1a Fishing effort by area

DEEP SEA

Effort within the Deep sea and Western waters has been compiled for kW*days-at-sea, GT*days-at-sea, and numbers of vessels. Within the report the focus is on kW*Days at sea. Information on GT*days at sea and numbers of vessels is available via the website: Http://stecf.jrc.ec.europa.eu/web/stecf/ewg06

Overview of spatial distribution of fishing effort data: Collation of data to address questions associated with deepwater fisheries provided an opportunity to present spatial data across wide geographic areas giving a general picture of the distribution of fishing activity.

For each ICES Sub-area, tables are included which show effort by country (and an overall effort for the area) and effort by gear. In addition, figures illustrating trends are included for the most important gears.

Figures 5.9.1.1 to 5.9.1.5 show respectively the distribution of effort for five of the categories of gear; bottom trawl, pelagic trawl, longline, gill nets and beam trawl specified in the Terms of Reference. Bottom trawl effort is concentrated in ICES Area IVa as well as the Continental shelf and slope to the west and southwest of Ireland and the UK. Up to 2010 bottom trawl effort is also found in the Cantabrian Sea and off the Portuguese coast.

Pelagic trawling was concentrated to the west of Ireland, and to the west and north of Scotland in the mid 2000s. This effort decreased greatly between 2007 and 2009, increased again in 2010, but was reduced again in 2011.

Longline effort was concentrated on the shelf and slope between Shetland and Portugal but has been in decline in recent years.

In the mid 2000s gill net effort was concentrated in the Celtic sea and Porcupine Bank. Due to current restrictions in the use of deepwater gill nets much of this effort is now concentrated in the Celtic sea, with some effort in the North sea, west of Scotland and the Bay of Biscay.

Beam trawling is concentrated in the Celtic sea and the western English Channel. While beam trawls are not a deepwater gear some of the species caught are classified under Annex 2.

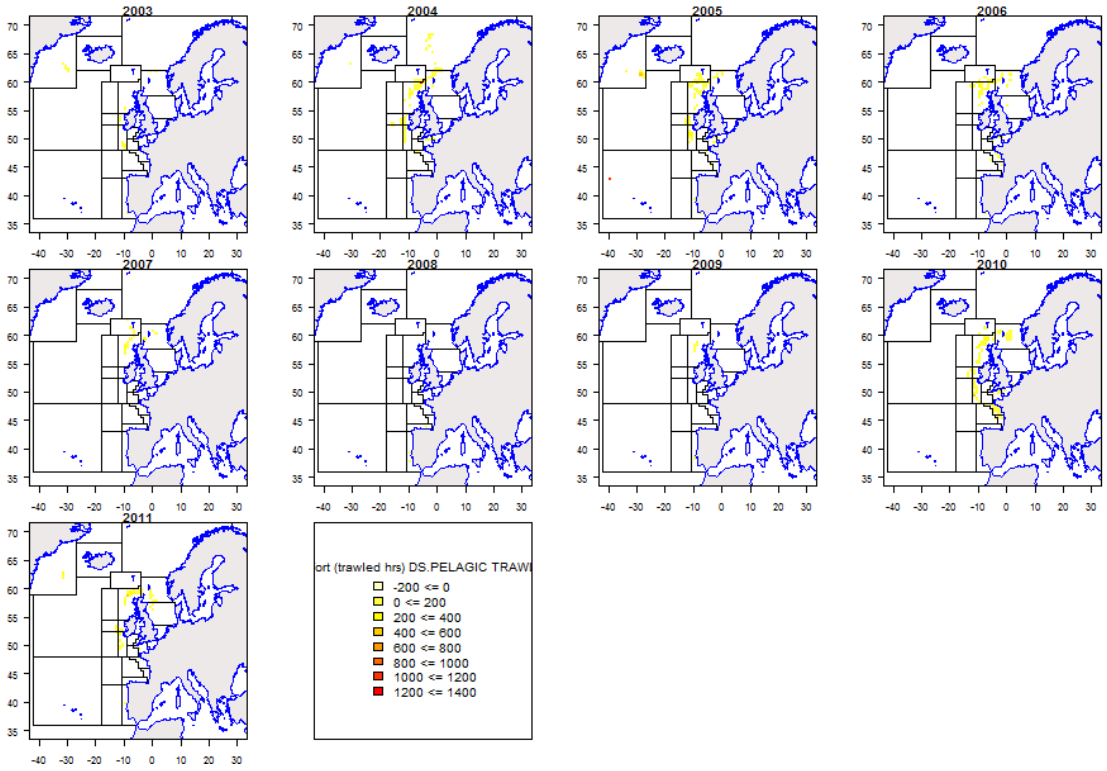


Figure 5.9.1. 1 Distribution of pelagic trawl effort, 2003 – 2011.

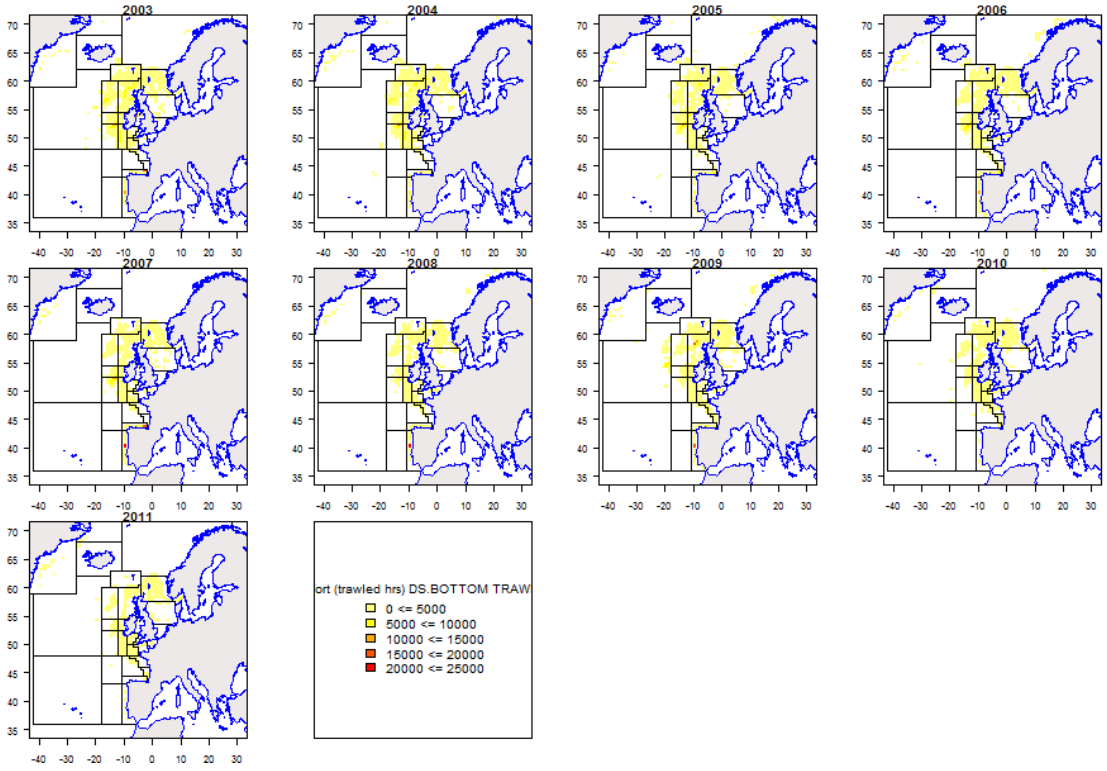


Figure 5.9.1. 2 Distribution of bottom trawl effort, 2003 – 2011.

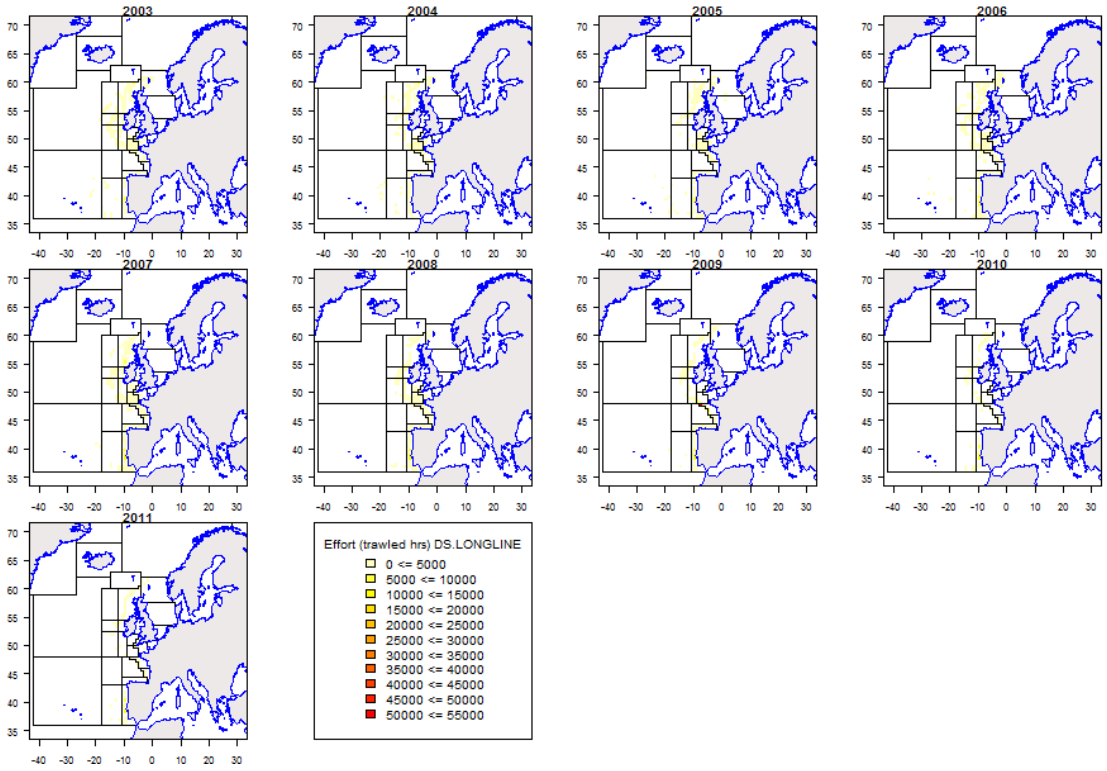


Figure 5.9.1.3 Distribution of longline effort, 2003 - 2011

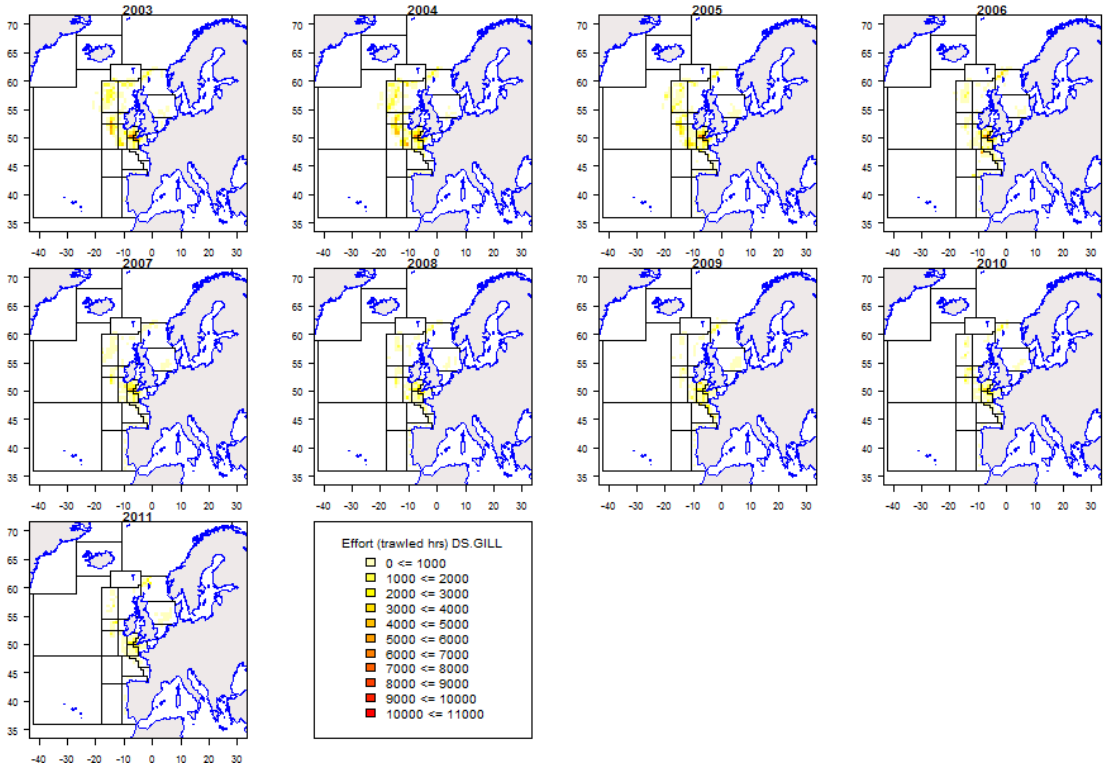


Figure 5.9.1.4 Distribution of gill net effort, 2003 – 2011.

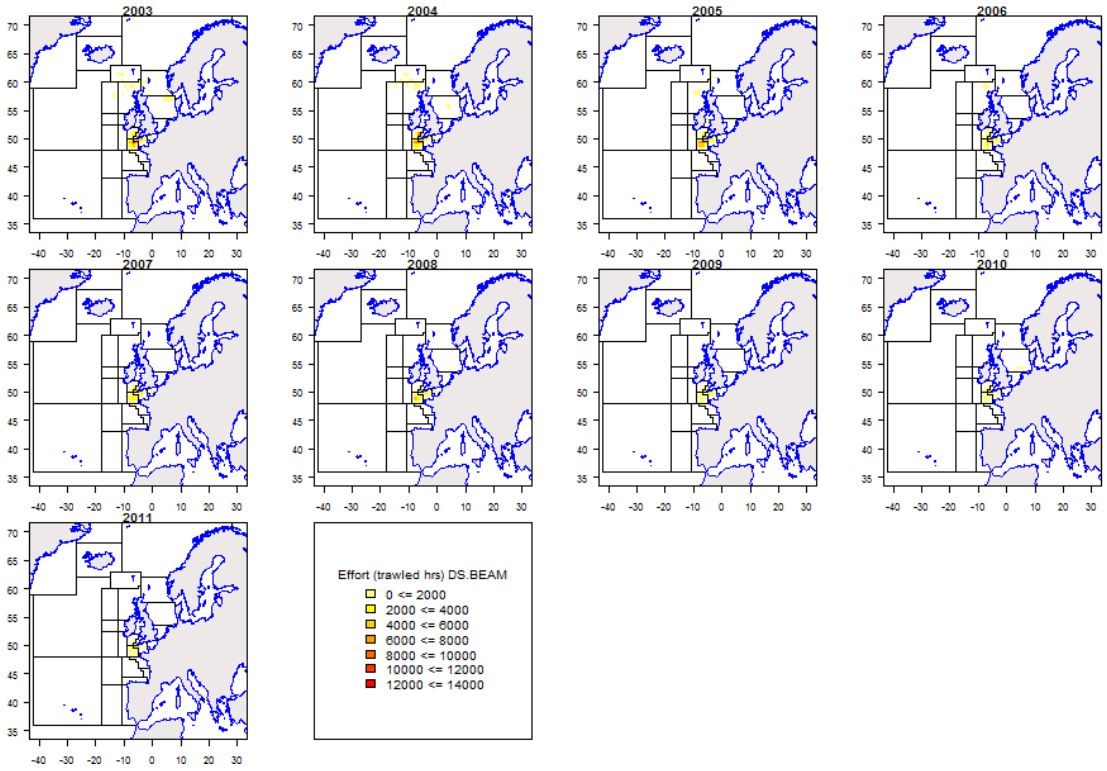


Figure 5.9.1.0.5 Distribution of beam trawl effort, 2003 – 2011.

WESTERN WATERS

Effort data under the Western Waters regulation is presented by a number of EU and non-EU areas. Where relevant these encompass breakdowns by country, gear and vessel length groups.

5.9.1.1 Fishing effort in ICES area I by fisheries and Member States only linked to Deep Sea species

Area I non-EU

Only sparse effort by Germany is reported is from this area (Tables 5.9.1.1.1, 5.9.1.1.2 and Figure 5.9.1.1.1). None of this is in EU waters.

Table 5.9.1.1.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area I non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1 non EU	DEU							70600			2427		
1 non EU Total								70600			2427		

Table 5.9.1.1.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area I non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1 non EU	BOTTOM TRAWLS	DEU							70600			2427		
1 non EU Total									70600			2427		

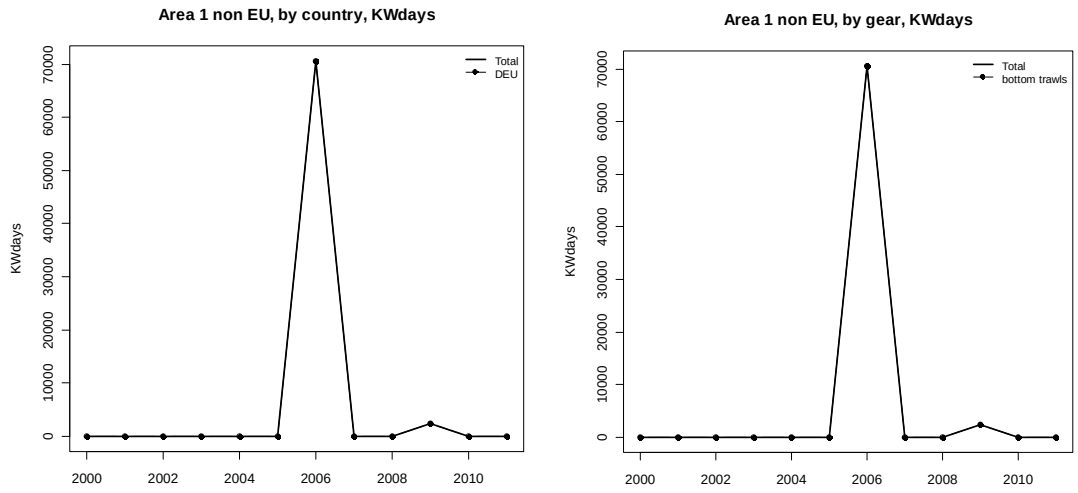


Figure 5.9.1.1.1.- Deep Sea Effort (kW*days) 2000-2011 by member state and by gear ICES Area I non EU.

5.9.1.2 Fishing effort in ICES area II by fisheries and Member States only linked to Deep Sea species

Area II EU

Five countries reported effort in this area with the majority being carried out by three countries, France, Netherlands and UK, with the pattern of each varying through time (Table 5.9.1.2.1); French effort showed a particularly noticeable drop in the mid 2000s. This increased again from 2006 but dropped sharply again in 2011. Netherlands pelagic trawl effort stopped in 2007 (Table 5.9.1.2.2). Germany contributed some effort in the mid 2000s. Effort in Sub-area II (EU) shows no obvious trend.

The principal gear used in this Sub-area (Table 5.9.1.2.2, and Figure 5.9.1.2.1) was the otter trawl (by France and UK). UK gill net effort fluctuated between 2002 and 2010 (albeit at a relatively low level), but had dropped to zero in 2011.

Table 5.9.1.2.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area II EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2 EU	DEU				33516	87864		12000					
	DNK	24060		24221									
	FRA	208280	325607	623365	43886	29608	65124	210353	134456	248412	246993	144020	63238
	NLD	24265	22652		13200	158115							
	UK	165402	122393	114443	66870	26431	12017	200446	97363	79378	73683	71877	19261
2 EU Total		422007	470652	762029	157472	302018	77141	422799	231819	327790	320676	215897	82499

Table 5.9.1.2.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area II EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2 EU	BOTTOM TRAWLS	DEU					4410		12000					
		FRA	208280	325607	623365	43886	29608	65124	210353	134456	248412	246993	144020	63238
		UK	145845	122393	113652	66870	17755	4661	178712	45144	24171	47637	69845	19261
	GILL	DEU				33516	53802							
		UK	19557		791		8676	7356	21734	39241	55207	26046	2032	
	PELAGIC TRAWLS	DEU					29652							
		DNK	24060		24221									
		NLD	24265	22652		13200	158115							
		UK								12978				
2 EU Total			422007	470652	762029	157472	302018	77141	422799	231819	327790	320676	215897	82499

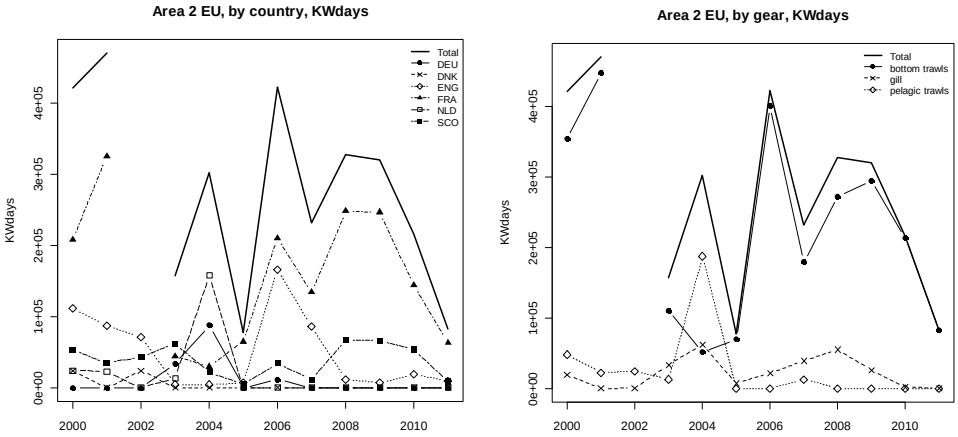


Figure 5.9.1.2.1.- Deep Sea Effort (kW*days) 2000-2011 by member state and by gear ICES Area II EU. Due to the uncertainty in French 2002 data this year has been removed from the figure.

Area II non-EU

Six countries reported effort in this area with the majority being carried out by the UK (Table 5.9.1.2.3); this effort has been decreasing since the mid 2000s. Netherlands pelagic trawl effort stopped in 2006 (Table 5.9.1.2.4). Germany contributed some effort in the mid 2000s. Effort in Sub-area II (non EU) has been decreasing since 2004.

The principal gear used in this Sub-area (Table 5.9.1.2.4, and Figures 5.9.1.2.2.) was the otter trawl (by UK). Nederland pelagic trawl effort reached a peak in 2004 but has ceased since 2007.

Table 5.9.1.2.3.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area II non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2 non EU	DEU				94653	49420	43686	262923			266743		
	FRA											81836	115246
	IRL			2940	1350								
	NLD		86785		349335	781113	196020	216254					
	PRT	764606	175049										
	UK	1288608	1113050	645077	701782	649580	817921	802633	613414	603521	380425	283442	247297
2 non EU Total		2053214	1374884	648017	1147120	1480113	1057627	1281810	613414	603521	647168	365278	362543

Table 5.9.1.2.4.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area II non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2 non EU	BOTTOM TRAWLS	DEU				94653		43686	262923			266743		
		FRA											71532	115246
		PRT	486524	175049										
		UK	1288608	1113050	645077	701782	649580	817921	802633	470655	603521	380425	283442	247297
	DREDGE	FRA											10304	
	LONGLINE	IRL				1350								
	PELAGIC TRAWLS	DEU					49420							
		IRL			2940									
		NLD		86785		349335	781113	196020	216254					
		PRT	278082											
		UK								142759				
2 non EU Total			2053214	1374884	648017	1147120	1480113	1057627	1281810	613414	603521	647168	365278	362543

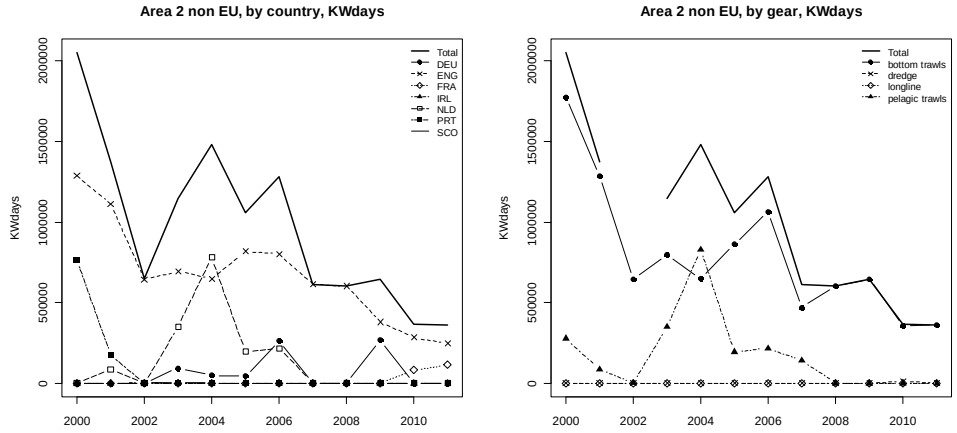


Figure 5.9.1.2.2. Deep Sea Effort (kwdays) 2000-2011 by member state and by gear ICES Area II non EU. Due to the uncertainty in French 2002 data this year has been removed from the figure.

5.9.1.3 Fishing effort in ICES area III by fisheries and Member States only linked to Deep Sea species

Area III no Baltic

All effort takes place in EU waters but is very limited and the majority of the records are for Danish vessels with German data reported for 2004 only.

Table 5.9.1.3.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area III EU no Baltic.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
3 no Baltic	DEU					1470							
	DNK	132752	164734	155250	237134	517548	375444	153296			11370	2682	10554
3 no Baltic Total		132752	164734	155250	237134	519018	375444	153296			11370	2682	10554

Table 5.9.1.3.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area III EU no Baltic.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
3 no Baltic	BOTTOM TRAWLS	DEU					1470							
		DNK	132752	164649	155250	237134	517548	375444	153296			11370	2682	10554
	GILL	DNK		85										
3 no Baltic Total			132752	164734	155250	237134	519018	375444	153296			11370	2682	10554

Note: the entry reported by Germany in 2004 comprised otter trawl effort only.

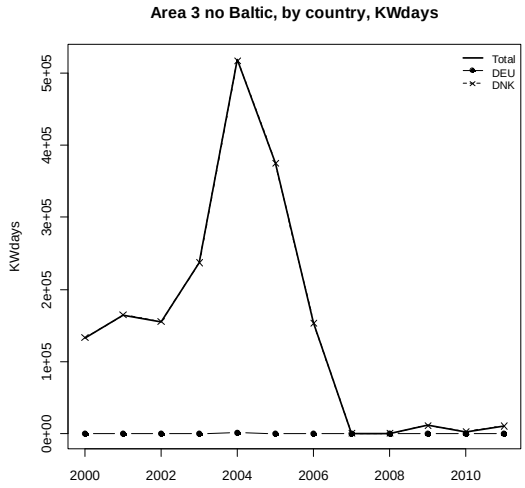


Figure 5.9.1.3.1.- Deep Sea Effort (kwdays) 2000-2011 by member state ICES Area III no Baltic.

5.9.1.4 Fishing effort in ICES area IV by fisheries and Member States only linked to Deep Sea species

All reported effort in this ICES area occurs in EU waters. Six countries have reported effort in this area with three countries, France, Netherlands and UK contributing the most (Tables 5.9.1.4.1 and 5.9.1.4.2). There is an obvious downward trend in overall effort up to 2008, with the 2008 figure only about 25% of the figure in 2000, but effort increased again in 2009 and seems to have stabilised in 2010 and 2011. French and UK effort showed marked declines up to 2008 but have shown an increase again in the latter three years. While Dutch effort peaked in the mid 2000s significant longlining was again carried out in 2010 and 2011. Germany has also contributed sporadic effort.

Otter trawl was by far the most important gear used, mainly by France and the UK. The UK also used beam trawl, and gill nets in reasonable amounts with small amounts of longline. Downward trends are evident in all of these gears up to 2008, Figure 5.9.1.4.1, since when otter trawling has shown an increase.

Table 5.9.1.4.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area IV.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
4	DEU					206302	134099	195941	15600		123550		19416
	DNK	1326		8341		12997				6000			
	FRA	1017129	635135	1575689	277155	176632	261732	178577	289736	185516	173847	484416	286163
	IRL	25800	35145	10500		4701							
	NLD	7260	134640	128276	619530	537132	500354	195760	222638	40084		106630	117744
	UK	2987253	3023864	3032377	1835877	1284533	1299055	1399548	1018323	993200	1371175	1402422	1480961
4 Total		4038768	3828784	4755183	2732562	2222297	2195240	1969826	1546297	1224800	1668572	1993468	1904284

Table 5.9.1.4.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area IV.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
4	BEAM	NLD											8826	
		UK	236790	198288	264316	52274	16008	14775	2045					
	BOTTOM TRAWLS	DEU					39270	61113	108000			123550		19416
		DNK	1326								6000			
		FRA	1017129	635135	1575689	277155	176632	261732	178577	289736	185516	173847	477056	285427
		IRL	25800	35145	10500									
		UK	2323564	2457315	2373676	1437532	905088	939566	952052	806117	797312	1104312	1191243	1122185
	DREDGE	FRA											7360	
	GILL	DEU						3798						
		UK	308720	332310	330460	253584	305389	259341	399015	136272	187454	225154	200327	350442
	LONGLINE	UK	117747	28338	36410	63020	50987	85373	46397	11044	8434	41709	10672	8244
	PELAGIC TRAWLS	DEU					167032	69188	87941	15600				
		DNK			8341		12997							
		IRL					4701							
		NLD	7260	134640	128276	619530	537132	500354	195760	222638	40084		97804	117744
		UK		7613	27515	28560	7061			64890				
	POTS	UK	432			907			39					
	TRAMMEL	FRA												736
		UK											180	90
4 Total			4038768	3828784	4755183	2732562	2222297	2195240	1969826	1546297	1224800	1668572	1993468	1904284

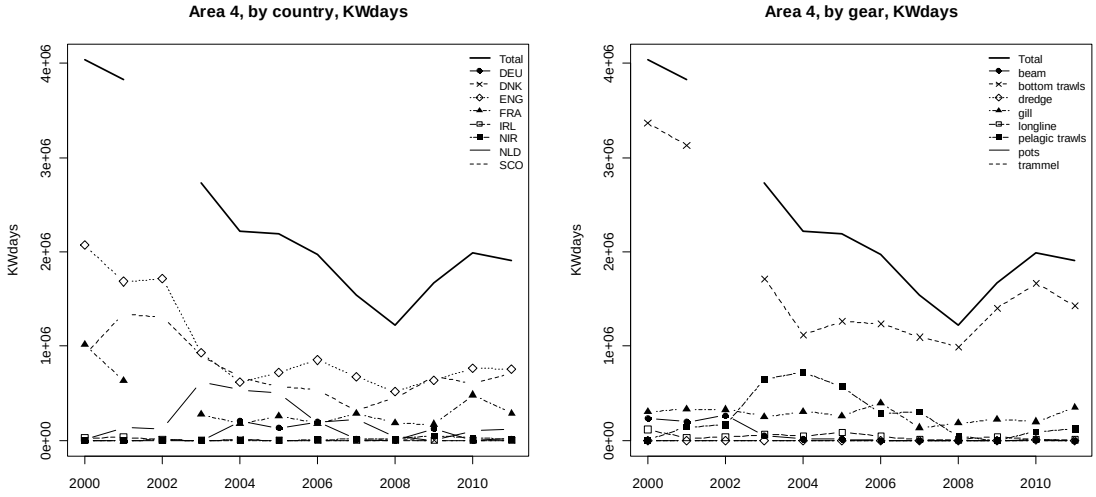


Figure 5.9.1.4.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by member state and by gear, in ICES Sub-area IV EU. Due to the uncertainty in French 2002 data this year has been removed from the figure.

5.9.1.5 Fishing effort in ICES area V

Deepwater V EU

Four countries, France, Netherlands and UK and Germany contributed effort in this area (Tables 5.9.1.5.1 and 5.9.1.5.2 and Figure 5.9.1.5.1). In the EU portion, French effort has dominated throughout the series and remained high up to 2009, however this effort had dropped by 90% by 2011. UK effort showed a marked decline to 2004 but has fluctuated since. Netherlands effort has decreased during the time period and has recorded effort only once, 2010, in the last three years. In both sections of Area V the predominant gear used was otter trawl, with some gill net fishing and pelagic trawls. German effort in the early part of the time series was both otter and pelagic trawls, but in later years this was confined to bottom trawls and since 2008 this effort is increasing quite quickly. Dutch effort, which generally declined throughout the series, was confined to pelagic trawls.

Table 5.9.1.5.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area V EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 EU	DEU				4851	4942	60375	12742	2600				
	FRA	952552	991663	4018388	1231117	1203179	992021	981544	1177248	947792	947792	381100	96200
	IRL		1800										
	NLD		228862	14014	117600	175353	80010	31618	11453	33971		6600	
	UK	218768	330610	170210	187245	250636	59416	23658	296	11228	20837	41132	5877
5 EU Total		1171320	1552935	4202612	1540813	1634110	1191822	1049562	1191597	992991	968629	428832	102077

Table 5.9.1.5.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area V EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 EU	BEAM	FRA				1519	12288							
	BOTTOM TRAWLS	FRA	868648	959279	3653332	1195742	1102571	921365	927080	1111008	793232	793232	381100	96200
		IRL		1800										
		UK	74165	96718	75712	57191	84681	14667	15854	296	11228	20837	37747	5877
	GILL	DEU				4851								
		FRA	83904	32384	365056	33856	88320	70656	54464	66240	154560	154560		
		UK	140735	233104	86980	130054	106655	41530	7804					
	LONGLINE	UK	778	788				3219					3385	
	PELAGIC TRAWLS	DEU					4942	60375	12742	2600				
		NLD		228862	14014	117600	175353	80010	31618	11453	33971		6600	
		UK	3090		7518		59300							
5 EU Total			1171320	1552935	4202612	1540813	1634110	1191822	1049562	1191597	992991	968629	428832	102077

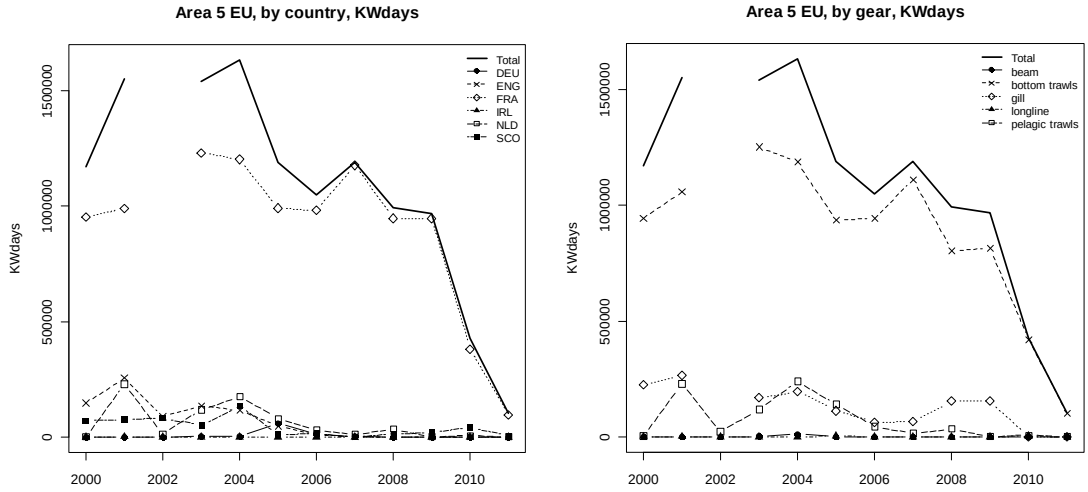


Figure 5.9.1.5.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by member state and by gear, in ICES Sub-area V EU. Due to the uncertainty in French 2002 data this year has been removed from the figure.

Western Waters V EU

There is uncertainty relating to French effort, values in 2002 are extremely high. Overall effort figures are therefore unreliable.

Overall effort within this area has declined over time, but the pace of decline has quickened in the last number of years. 2011 effort is approximately 10% of that recorded for 2009. France and UK bottom trawls, as well as gill nets account for most of the effort in this region. UK gill net effort stopped 2006 and France

stopped in 2009. Netherlands pelagic effort ceased in 2011 having dropped from low levels over the preceding four years, (Table 5.9.1.5.3. and Figure 5.9.1.5.2).

Table 5.9.1.5.3.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area V EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
5 EU	beam	FRA	o15m	0		0	0	0	0	0	0	0	3038	1519	1519	24576	12288	12288
		UK	o15m	0		0	1608		1608	0		0	0		0	0		0
	bottom trawls	DEU	o15m	1020		1020	0		0	0		0	0		0	0		0
		FRA	o15m	1740386	868648	871738	1930307	959279	971028	7440612	3653332	3787280	2398165	1195742	1202423	2208967	1102571	1106396
		IRL	o15m	0	0	0	3600	1800	1800	0	0	0	0	0	0	0	0	0
		UK	o15m	166720	74165	92555	230834	96718	134116	163967	75712	88255	120394	57191	63203	176429	84681	91748
	dredge	UK	o15m	0		0	0		0	0		0	260		260	0		0
	gill	DEU	o15m	0	0	0	0	0	0	0	0	0	20727	4851	15876	5733	0	5733
		FRA	o15m	167808	83904	83904	64768	32384	32384	734872	365056	369816	69184	33856	35328	176640	88320	88320
		UK	o15m	281716	140735	140981	466208	233104	233104	173960	86980	86980	288944	130054	158890	213310	106655	106655
	longline	UK	o15m	2699	778	1921	2192	788	1404	7892	0	7892	0	0	0	0	0	0
	pelagic trawls	DEU	o15m	0	0	0	0	0	0	0	0	0	102767	0	102767	9884	4942	4942
		DNK	o15m	0		0	0		0	0		0	0		0	7742		7742
		FRA	o15m	79488		79488	9719		9719	329728		329728	47104		47104	14720		14720
		IRL	o15m	0		0	0		0	0		0	13057		13057	29321		29321
		NLD	o15m	0	0	0	680114	228862	451252	42042	14014	28028	318293	117600	200693	516353	175353	341000
		UK	o15m	6180	3090	3090	5112	0	5112	46218	7518	38700	52687	0	52687	154266	59300	94966
	pots	UK	o15m	0		0	0		0	0		0	0		0	744		744
	trammel	FRA	o15m	0		0	41216		41216	0		0	0		0	0		0
Total				2446017	1171320	1274697	3435678	1552935	1882743	8939291	4202612	4736679	3434620	1540813	1893807	3538685	1634110	1904575

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	5100		5100	0		0	0		0	0		0	0		0	0		0
1844938	921365	923573	1857681	927080	930601	2228366	1111008	1117358	1586464	793232	793232	1586464	793232	793232	762200	381100	381100	192400	96200	96200
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32753	14667	18086	33689	15854	17835	2862	296	2566	23889	11228	12661	42047	20837	21210	76528	37747	38781	31068	5877	25191
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141312	70656	70656	108928	54464	54464	148672	66240	82432	309120	154560	154560	309120	154560	154560	0	0	0	0	0	0
83677	41530	42147	15608	7804	7804	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6438	3219	3219	0	0	0	0	0	0	0	0	0	0	0	0	7066	3385	3681	238	0	238
131340	60375	70965	41381	12742	28639	5200	2600	2600	0	0	0	0	0	0	0	0	0	0	0	0
0		0	0		0	16132		16132	2005		2005	0		0	0		0	0		0
17664		17664	55936		55936	29440		29440	17664		17664	17664		17664	0		0	0		0
27100		27100	0		0	5880		5880	0		0	0		0	0		0	2800		2800
222750	80010	142740	114654	31618	83036	56139	11453	44686	82501	33971	48530	43560	0	43560	13200	6600	6600	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16120	0	16120	0	0	0
0		0	1744		1744	0		0	0		0	0		0	231		231	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
2507972	1191822	1316150	2234721	1049562	1185159	2492691	1191597	1301094	2021643	992991	1028652	1998855	968629	1030226	875345	428832	446513	226506	102077	124429

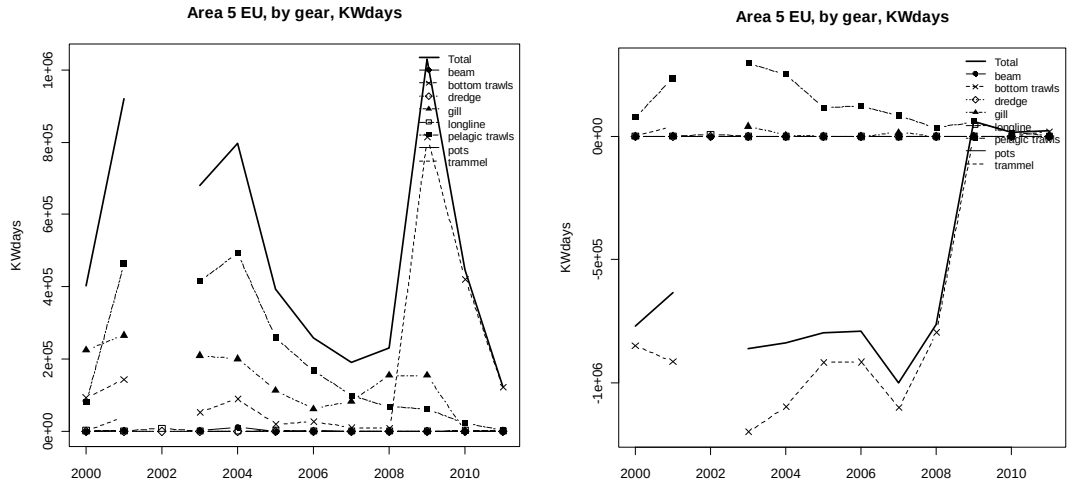


Figure 5.9.1.5.2.- Effort (kW*days) reported within ICES Sub-area V EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort.

Deepwater V non-EU

In this area bottom trawl effort of both France and the UK peaked in 2004 and has dropped slowly since. The UK reported no effort in 2011 and France recorded a very small amount. German effort dropped from the mid 2000s before bottom trawl effort began rising in 2009. This effort has continued to 2011. Germany and the Netherlands recorded pelagic trawl effort in the mid 2000s but this has since stopped.

Table 5.9.1.5.4.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area V non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 non EU	DEU				256560	194758	446140	274286	23400	7281	103500	385062	244500
	FRA	113443	696775	1835624	664525	776742	381706	325531	294664	219992	219992	44400	7400
	NLD		7260		271601	15850	154495	26765	47559			7428	
	UK	825086	977943	1067328	917320	1071860	885811	422340	272851	114920	128263	232011	
5 non EU Total		938529	1681978	2902952	2110006	2059210	1868152	1048922	638474	342193	451755	668901	251900

Table 5.9.1.5.5.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area V non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 non EU	BEAM	FRA				6077	7400							
	BOTTOM TRAWLS	DEU				256560	174990	339900	249060		7281	103500	385062	244500
		FRA	113443	696775	1835624	658448	769342	381706	325531	294664	219992	219992	44400	7400
		UK	825086	977943	1067328	917320	1071860	885811	422340	272851	114920	128263	232011	
	PELAGIC TRAWLS	DEU					19768	106240	25226	23400				
		NLD		7260		271601	15850	154495	26765	47559			7428	
5 non EU Total			938529	1681978	2902952	2110006	2059210	1868152	1048922	638474	342193	451755	668901	251900

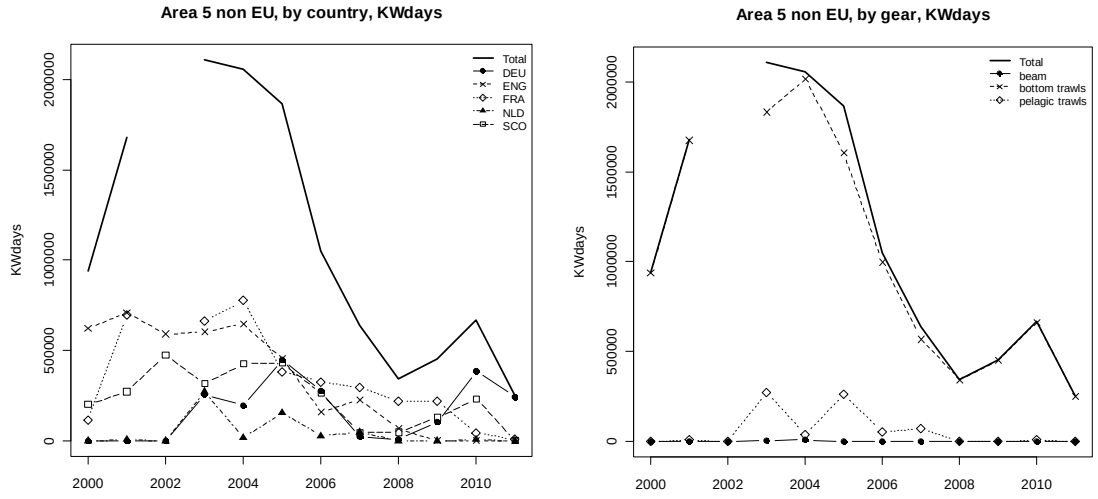


Figure 5.9.1.5.3. Deep Sea fishing effort (kW*days), 2000 – 2011, by member state and by gear, in ICES Sub-area V non-EU. Due to the uncertainty in French 2002 data this year has been removed from the figure.

Western Waters V non-EU

There is uncertainty relating to French effort, values in 2002 are extremely high. Overall effort figures are unreliable.

Overall effort within this area has declined over time, having previously been fished by a number of nations utilising bottom and pelagic trawls (Table 5.9.1.5.6. and Figure 5.9.1.5.4).

The majority of fishing effort within the area is directed toward fisheries not covered by the western waters regulation. Bottom trawling is the primary gear within the area, much of which targets deepwater fisheries. Scotland has been the dominant nation deploying this effort. Pelagic trawl effort fluctuated between 2003 and 2005, at which stage effort started declining. In the last three years pelagic effort has only been reported for 2010. Fishing was principally carried out by Denmark, the Netherlands, and Scotland.

Table 5.9.1.5.6.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area V non EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
5 non EU	beam	FRA	o15m	0	0		0	0		0	0		6077	6077		7400	7400	
		UK	o15m	67634		67634	0		0	0		0	0		0	0		0
	bottom trawls	DEU	o15m	210449	0	210449	319410	0	319410	153555	0	153555	625650	256560	369090	383415	174990	208425
		DNK	o15m	18045		18045	17807		17807	0		0	52906		52906	0		0
		FRA	o15m	116374	113443	2931	712887	696775	16112	1889044	1835624	53420	717198	658448	58750	799316	769342	29974
		UK	o15m	1857439	825086	1032353	2250137	977943	1272194	2536116	1067328	1468788	2240606	917320	1323286	2564913	1071860	1493053
	gill	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	2944		2944	0		0
	longline	UK	o15m	5595		5595	800		800	18168		18168	3608		3608	0		0
	none	DNK	o15m	0		0	0		0	0		0	0		0	837		837
	pelagic trawls	DEU	o15m	0	0	0	0	0	0	0	0	0	167013	0	167013	39536	19768	19768
		DNK	o15m	212375		212375	127618		127618	11208		11208	127068		127068	108776		108776
		FRA	o15m	55936		55936	103040		103040	0		0	23552		23552	41216		41216
		NLD	o15m	49302	0	49302	25494	7260	18234	22210	0	22210	794412	271601	522811	105786	15850	89936
		UK	o15m	19140		19140	0		0	0		0	15888		15888	46080		46080
	pots	UK	o15m	0		0	0		0	5330		5330	0		0	0		0
	trammel	FRA	o15m	0		0	20608		20608	0		0	0		0	0		0
Total				2612289	938529	1673760	3577801	1681978	1895823	4635631	2902952	1732679	4776922	2110006	2666916	4097275	2059210	2038065

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0	0		0	0		0	0		0	0		0	0		0	0		0	0	
0		0	0		0	0		0	0		0	0		0	0		0	0		0
682860	339900	342960	499320	249060	250260	137210	0	137210	14562	7281	7281	234000	103500	130500	770124	385062	385062	489000	244500	244500
35292		35292	0		0	0		0	103067		103067	0		0	0		0	4171		4171
389685	381706	7979	338520	325531	12989	318354	294664	23690	221842	219992	1850	221842	219992	1850	104822	44400	60422	16272	7400	8872
2272624	885811	1386813	1286354	422340	864014	842519	272851	569668	434624	114920	319704	542351	128263	414088	707560	232011	475549	1540	0	1540
0		0	0		0	0		0	0		0	0		0	0		0	292		292
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
212480	106240	106240	82246	25226	57020	46800	23400	23400	20800	0	20800	0	0	0	0	0	0	0	0	0
215592		215592	172263		172263	170505		170505	14035		14035	0		0	0		0	0		0
52992		52992	23552		23552	17664		17664	0		0	0		0	0		0	0		0
539523	154495	385028	80295	26765	53530	129477	47559	81918	0	0	0	0	0	0	14856	7428	7428	0	0	0
8353		8353	28980		28980	82287		82287	68337		68337	0		0	28120		28120	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
4409401	1868152	2541249	2511530	1048922	1462608	1744816	638474	1106342	877267	342193	535074	998193	451755	546438	1625482	668901	956581	511275	251900	259375

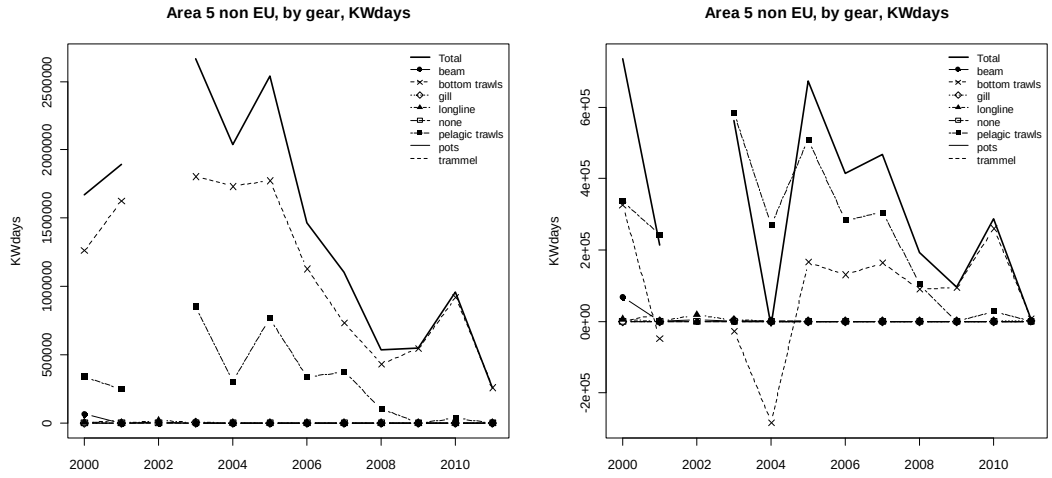


Figure 5.9.1.5.4.- Effort (kW*days) reported within ICES Sub-area V non-EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort.

5.9.1.6 Fishing effort in ICES area VI

Deepwater VI EU

Several countries, France, Netherlands, Ireland, UK and Germany fished in this area (Tables 5.9.1.6.1 and 5.9.1.6.2 and Figure 5.9.1.6.1). In this area French and UK effort dominated throughout the series. French effort peaked in 2001 but and between 2007 and 2010 had stabilised at about 40% of earlier values. This figure dropped again in 2011. UK effort also peaked in 2001 and has also stabilised in the last three years, but at a much lower level than French effort. Otter trawl was the predominant gear used in area VI.

In the EU portion of Area VI this trawl effort was followed in importance by pelagic trawling and gill nets, although effort has been in decline since 2002. Overall UK and Irish effort showed marked declines throughout the time period mainly through reducing otter trawl activity.

In addition to otter trawl, UK effort comprises all the other gear types. UK gill net activity had declined up to 2010 but showed an increase again in 2011. UK longline effort also increased in 2011, approaching 2007 to 2008 levels.

Dutch effort, which consisted entirely of pelagic trawls, fluctuated during the early 2000s, but has stabilised since 2006 even though no effort was recorded in 2009. In common with other areas, German effort was confined to the mid-2000s with gill nets and pelagic trawls being used.

Table 5.9.1.6.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area VI EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 EU	DEU				441	557611	335978	356344	215066		49400	34839	
	DNK					25993							
	ESP										199237		
	FRA	6300751	6720756	26462011	5332009	5605366	5279115	4105642	3912664	3795716	3795716	3097857	2063204
	IRL	584925	845204	554224	306629	220854	254537	63679	160602	132217	32282	81929	16578
	NLD	1574305	1573595	1380242	604027	2937769	1737822	1054019	1061055	1013096		988482	658560
	UK	6535912	7197253	6871134	5328226	4578573	2940914	1847751	1574183	925283	1362479	1221865	1064186
6 EU Total		14995893	16336808	35267611	11571332	13926166	10548366	7427435	6923570	5866312	5439114	5424972	3802528

Table 5.9.1.6.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area VI EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 EU	BEAM	FRA				54693	95526							
		UK	11278	9298	4214	19342	50267	29475	12955					
	BOTTOM TRAWLS	DEU					12530							
		ESP										142583		
		FRA	6041623	6316287	25605568	4967172	5355877	5116610	3995234	3543821	3594454	3594454	2997921	2046576
		IRL	449853	522150	216898	299429	192885	253337	63679	148902	132217	32282	81929	16578
		UK	4243119	5060104	4585180	3786808	2809204	1795699	1225018	942904	665644	1145465	959278	712339
	DREDGE	UK				20227								
	GILL	DEU				441	66848	29540	15192				34839	
		FRA	255888	313683	807848	307424	111848	124528	100472	286283	161800	161800	99936	16628
		IRL		8844										
		UK	1525030	1319042	1405224	1013475	841609	690287	147742	90561	105292	50425	69752	123079
	LONGLINE	ESP										56654		
		FRA							9936	82560	39462	39462		
		IRL	3693	45222	8100	7200	17000	1200		11700				
		UK	644110	626778	514087	439338	561125	387085	462036	531317	149543	166589	192835	228768
	PELAGIC TRAWLS	DEU					478233	306438	341152	215066		49400		
		DNK					25993							
		FRA	3240	90786	48595	2720	42115	37977						
		IRL	131379	268988	329226		10969							
		NLD	1574305	1573595	1380242	604027	2937769	1737822	1054019	1061055	1013096		988482	658560
		UK	112375	182031	298340	5120	297769	38368						
	POTS	UK			64089	43916	18599			9401	4804			
6 EU Total			14995893	16336808	35267611	11571332	13926166	10548366	7427435	6923570	5866312	5439114	5424972	3802528

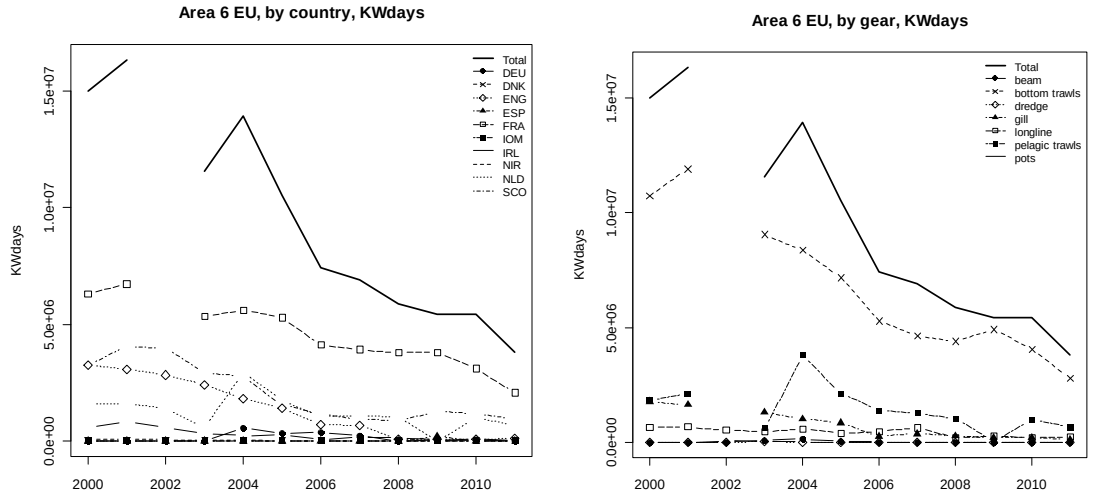


Figure 5.9.1.6.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area VI EU. Due to the uncertainty in French 2002 data this year has been removed from the figure.

Western Waters VI EU

There is uncertainty relating to French effort, values in 2002 are extremely high. Overall effort figures are unreliable. There has been a gradual decline in effort within Area VI EU over the period (Table 5.9.1.6.3. and Figure 5.9.1.6.2.)

Bottom trawling and pelagic trawling are the primary gear categories within this area, along with smaller amounts of pots and traps. Bottom trawling effort has remained stable over the past six years. Pelagic trawl effort has shown a steadier decline throughout the period, but this has stabilised in the last four years. The

influence of deepwater fisheries in Area VI EU is less than in Area V, here the majority of annual effort is directed to non-deepwater fisheries. A variety of nations operate within this area. Scotland dominates bottom trawl effort, with large contributions from France (directed toward deepwater fisheries), and to a lesser extent Ireland. Pelagic effort is dominated by the Netherlands, Scotland and Ireland.

A number of additional gear categories are used within this area, occurring at comparatively low levels. This includes pot, dredging, longlines and gillnets. Of these, pots have the highest effort. Much of this effort originates from Scottish vessels, although Irish, English and Northern Irish vessels also utilise this gear. Gillnetting previously showed higher levels of effort, the majority of which was associated with deepwater fisheries, which have subsequently declined since 2006 to low levels. Scotland, France and Germany carry out demersal gillnetting at lower levels.

Table 5.9.1.6.3.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area VI EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
6 EU	beam	BEL	o15m	27240		27240	10308		10308	5595		5595	19005		19005	18103		18103
		FRA	o15m	0	0	0	1472	0	1472	0	0	0	80520	54693	25827	132783	95526	37257
		IRL	o15m	10523		10523	12528		12528	0		0	0		0	38963		38963
		UK	o10t15m	384		384	0		0	0		0	442		442	0		0
			o15m	159713	11278	148435	95437	9298	86139	115497	4214	111283	168516	19342	149174	313342	50267	263075
	bottom trawls	BEL	o15m	0		0	0		0	0		0	0		0	0		0
		DEU	o15m	65842	0	65842	59689	0	59689	23580	0	23580	19191	0	19191	25060	12530	12530
		DNK	o15m	46920		46920	80358		80358	130437		130437	156828		156828	91088		91088
		ESP	o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	0		0	0		0	0		0	23547		23547	0		0
			o15m	12473556	6041623	6431933	13173493	6316287	6857206	50084019	25605568	24478451	9796526	4967172	4829354	10069369	5355877	4713492
		IRL	o10t15m	102163		102163	91438		91438	62234		62234	93897		93897	61003		61003
			o15m	2720946	449853	2271093	2711139	522150	2188989	1608904	216898	1392006	2352678	299429	2053249	1737060	192885	1544175
		NLD	o15m	0		0	0		0	10592		10592	9840		9840	0		0
		UK	o10t15m	1692863	0	1692863	1677500	0	1677500	1622485	224	1622261	1895730	0	1895730	1868418	6994	1861424
			o15m	19417845	4243119	15174726	20300915	5060104	15240811	18209364	4584956	13624408	16498712	3786808	12711904	13339205	2802210	10536995
	dredge	FRA	o10t15m	0		0	0		0	0		0	7332		7332	1128		1128
		IRL	o10t15m	7649		7649	13630		13630	9954		9954	680		680	397		397
			o15m	515		515	8935		8935	24050		24050	10260		10260	19884		19884
		UK	o10t15m	266653		266653	276275		276275	253283		253283	247725		247725	275102		275102
			o15m	1706910	0	1706910	1738856	0	1738856	1958588	0	1958588	1710344	20227	1690117	1401835	0	1401835
	gill	DEU	o15m	265418	0	265418	90861	0	90861	41454	0	41454	138535	441	138094	201340	66848	134492
		FRA	o15m	275147	255888	19259	448723	313683	135040	1239300	807848	431452	417312	307424	109888	271806	111848	159958
		IRL	o10t15m	1740		1740	0		0	1740		1740	735		735	1711		1711
			o15m	1994	0	1994	28480	8844	19636	6518	0	6518	19232	0	19232	20402	0	20402
		UK	o10t15m	9427		9427	13098		13098	5822		5822	5005		5005	246		246
			o15m	3166048	1525030	1641018	2738855	1319042	1419813	2862567	1405224	1457343	2103642	1013475	1090167	1683218	841609	841609
	longline	ESP	o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o15m	52948	0	52948	0	0	0	0	0	0	0	0	0	0	0	0
		IRL	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	7386	3693	3693	90444	45222	45222	18900	8100	10800	14400	7200	7200	35400	17000	18400
		UK	o10t15m	562		562	0		0	2016		2016	0		0	0		0
			o15m	1464770	644110	820660	1420788	626778	794010	1246312	514087	732225	946802	439338	507464	1171341	561125	610216
	none	IRL	o10t15m	0		0	0		0	0		0	0		0	0		0
		UK	o10t15m	50876		50876	57096		57096	59694		59694	52102		52102	26746		26746
			o15m	0		0	0		0	0		0	0		0	112		112
	pelagic trawls	DEU	o15m	666036	0	666036	774479	0	774479	590791	0	590791	682432	0	682432	1240635	478233	762402
		DNK	o15m	151351	0	151351	45218	0	45218	28933	0	28933	71018	0	71018	283136	25993	257143
		FRA	o15m	276259	3240	273019	314624	90786	223838	1074695	48595	1026100	381963	2720	379243	479515	42115	437400
		IRL	o10t15m	16394		16394	5671		5671	20155		20155	172		172	0		0
			o15m	2291247	131379	2159868	1687927	268988	1418939	2494114	329226	2164888	2591699	0	2591699	2766669	10969	2755700
		LTU	o40m	0		0	0		0	0		0	0		0	0		0
		NLD	o15m	5246934	1574305	3672629	5550500	1573595	3976905	4834134	1380242	3453892	3004068	604027	2400041	9094161	2937769	6156392
		UK	o10t15m	0		0	0		0	157		157	0		0	157		157
			o15m	3861151	112375	3748776	4503598	182031	4321567	5581264	298340	5282924	6260878	5120	6255758	6834790	297769	6537021
	pots	DEU	o15m	0		0	0		0	21168		21168	24696		24696	49833		49833
		IRL	o10t15m	0		0	10556		10556	11542		11542	42987		42987	51068		51068
			o15m	358415		358415	564982		564982	568652		568652	619014		619014	631838		631838
		UK	o10t15m	1314030		1314030	1400663		1400663	1174662		1174662	1284817		1284817	1421250		1421250
			o15m	515972	0	515972	612396	0	612396	919945	64089	855856	862090	43916	818174	646034	18599	627435
	trammel	FRA	o10t15m	564		564	0		0	0		0	0		0	0		0
			o15m	0		0	114816		114816	0		0	0		0	0		0
		IRL	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	0		0	0		0
		UK	o10t15m	2265		2265	1416		1416	0		0	636		636	435		435
			o15m	0		0	0		0	0		0	27508		27508	0		0
Total				58696656	14995893	43700763	60727164	16336808	44390356	96923117	35267611	61655506	52643516	11571332	41072184	56304583	13926166	42378417

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
8566		8566	4415		4415	2356		2356	0		0	0		0	0		0	0		0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5068		5068	6335		6335	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
176002	29475	146527	114650	12955	101695	1803	0	1803	0	0	0	0	0	0	0	0	0	0	0	0
0		0	1766		1766	795		795	0		0	0		0	1176		1176	0		0
35586	0	35586	22797	0	22797	23652	0	23652	3060	0	3060	4854	0	4854	6957	0	6957	0	0	0
0		0	11520		11520	0		0	0		0	0		0	0		0	0		0
0	0		0	0		0	0		0	0		142583	142583		0	0		0	0	
0		0	0		0	0		0	0		0	0		0	0		0	0		0
10234527	5116610	5117917	8258448	3995234	4263214	7485962	3543821	3942141	7557754	3594454	3963300	7557754	3594454	3963300	6093449	2997921	3095528	4198080	2046576	2151504
31160		31160	18456		18456	13467		13467	16261		16261	6016		6016	12813		12813	7974		7974
1544255	253337	1290918	1475859	63679	1412180	1545194	148902	1396292	1327955	132217	1195738	834212	32282	801930	1013692	81929	931763	840378	16578	823800
0		0	0		0	0		0	0		0	0		0	0		0	5464		5464
1733080	0	1733080	1743621	0	1743621	1807352	0	1807352	1644491	0	1644491	1527418	531	1526887	1421194	0	1421194	1269252	0	1269252
9760208	1795699	7964509	7842396	1225018	6617378	7627478	942904	6684574	7593650	665644	6928006	8463239	1144934	7318305	7792379	959278	6833101	7397250	712339	6684911
0		0	0		0	0		0	0		0	0		0	0		0	0		0
397		397	556		556	884		884	0		0	0		0	0		0	640		640
0		0	0		0	19404		19404	7938		7938	0		0	0		0	0		0
252443		252443	181612		181612	131767		131767	169174		169174	159192		159192	166227		166227	171550		171550
1257717	0	1257717	979504	0	979504	759475	0	759475	898415	0	898415	912135	0	912135	836543	0	836543	740789	0	740789
162340	29540	132800	71740	15192	56548	161064	0	161064	141492	0	141492	91269	0	91269	149522	34839	114683	107771	0	107771
393254	124528	268726	377000	100472	276528	515082	286283	228799	811478	161800	649678	811478	161800	649678	475870	99936	375934	649667	16628	633039
192		192	2379		2379	7351		7351	5421		5421	1140		1140	551		551	2075		2075
0	0	0	1175	0	1175	5995	0	5995	4528	0	4528	2135	0	2135	0	0	0	0	0	0
2038		2038	1044		1044	553		553	9057		9057	0		0	0		0	0		0
1468263	690287	777976	383180	147742	235438	246291	90561	155730	291604	105292	186312	201363	50425	150938	262631	69752	192879	341822	123079	218743
0	0		0	0		0	0		0	0		56654	56654		0	0		0	0	
0	0	0	173066	9936	163130	527904	82560	445344	317212	39462	277750	317212	39462	277750	189072	0	189072	172250	0	172250
0		0	0		0	0		0	0		0	0		0	1397		1397	7263		7263
4200	1200	3000	0	0	0	23400	11700	11700	0	0	0	0	0	0	0	0	0	0	0	0
1574		1574	0		0	0		0	0		0	0		0	0		0	0		0
1008241	387085	621156	1146298	462036	684262	1375529	531317	844212	556382	149543	406839	869985	166589	703396	912219	192835	719384	923522	228768	694754
0		0	0		0	0		0	218		218	0		0	835		835	0		0
42054		42054	50920		50920	61281		61281	47721		47721	50969		50969	43058		43058	41387		41387
195		195	0		0	2223		2223	20908		20908	48410		48410	55669		55669	57503		57503
944822	306438	638384	1484923	341152	1143771	1376163	215066	1161097	684150	0	684150	533879	49400	484479	367736	0	367736	1061186	0	1061186
166341	0	166341	704360	0	704360	119581	0	119581	91954	0	91954	0	0	0	0	0	0	119982	0	119982
235593	37977	197616	305922	0	305922	324841	0	324841	257796	0	257796	257796	0	257796	233392	0	233392	138664	0	138664
320		320	4320		4320	2512		2512	2092		2092	640		640	1488		1488	12581		12581
1534869	0	1534869	1754981	0	1754981	1463653	0	1463653	1645492	0	1645492	1579516	0	1579516	1372793	0	1372793	1580559	0	1580559
0		0	0		0	0		0	0		0	29520		29520	0		0	150400		150400
7282062	1737822	5544240	5381853	1054019	4327834	5491258	1061055	4430203	4837642	1013096	3824546	2815153	0	2815153	2546200	988482	1557718	1917058	658560	1258498
0		0	0		0	0		0	0		0	0		0	0		0	0		0
5123484	38368	5085116	3494402	0	3494402	3280593	0	3280593	2237211	0	2237211	2583861	0	2583861	2163861	0	2163861	2471226	0	2471226
55125		55125	98384		98384	92176		92176	34398		34398	46978		46978	75535		75535	63157		63157
19007		19007	123069		123069	201366		201366	165038		165038	175838		175838	207251		207251	130538		130538
584531		584531	441124		441124	462973		462973	394266		394266	327243		327243	297001		297001	208006		208006
1532009		1532009	1595675		1595675	1875338		1875338	1824965		1824965	1846455		1846455	2048952		2048952	1758029		1758029
638067	0	638067	663217	0	663217	1043093	9401	1033692	635597	4804	630793	601967	0	601967	710475	0	710475	725922	0	725922
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	448		448	0		0	0		0	0		0	0		0	359		359
12000		12000	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
46249590	10548366	35701224	38921415	7427435	31493980	38079809	6923570	31156239	34235320	5866312	28369008	32856864	5439114	27417750	29459938	5424972	24034966	27272304	3802528	23469776

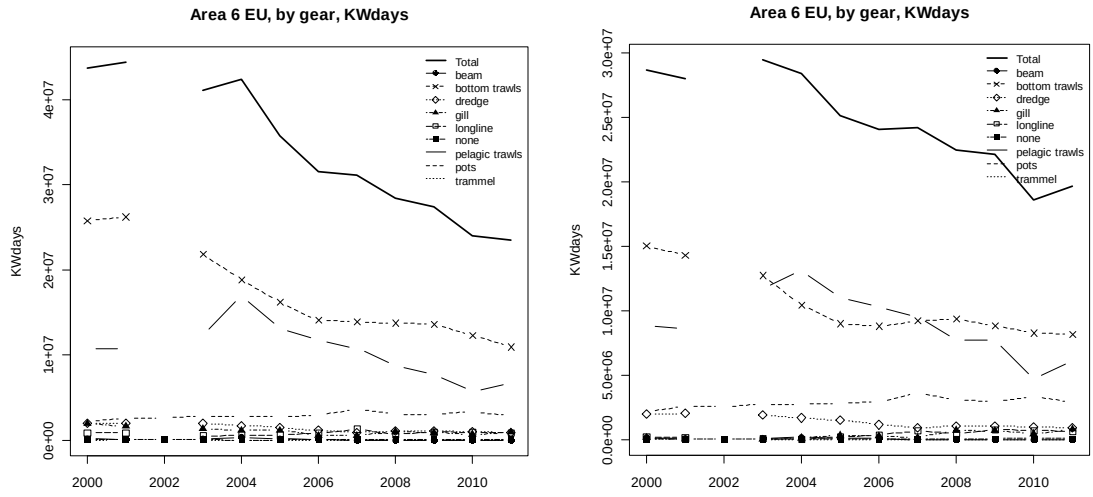


Figure 5.9.1.6.2.- Effort (kW*days) reported within ICES Sub-area VI EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort.

Deepwater VI non-EU

The effort in Area VI non-EU has been dominated by the UK, however this effort has dropped by more than 97% since its peak in 2004.

In the non EU portion of Area VI effort was dominated by UK otter trawling. Effort peaked in 2004 but has stabilised in the last three years, (Tables 5.9.1.6.4, 5.9.1.6.5 and Figure 5.9.1.6.3). Bottom trawl was the most important method, with gill net effort being the next most important. However Portuguese gill net effort stopped in 2001 and UK effort stopped in 2007. Netherlands carried out pelagic trawls for a couple of years in the mid 2000s.

Table 5.9.1.6.4.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area VI non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 non EU	EST						12656	18080					
	NLD				4398	139938							
	PRT	342636	361300			72900							
	UK	405732	826752	833700	1222142	1398142	706837	529460	367291	170600	99545	135929	41990
6 non EU Total		748368	1188052	833700	1226540	1610980	719493	547540	367291	170600	99545	135929	41990

Table 5.9.1.6.5.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area VI non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 non EU	BOTTOM TRAWLS	EST						12656	18080					
		UK	338514	730549	689955	871779	1024477	548210	451499	316165	151087	99545	135929	41990
	GILL	PRT	342636	361300										
		UK	67218	93623	143745	342362	373665	158627	77961	51126				
	LONGLINE	PRT					72900							
		UK		2580		8001								
	PELAGIC TRAWLS	NLD				4398	139938							
	POTS	UK									19513			
6 non EU Total			748368	1188052	833700	1226540	1610980	719493	547540	367291	170600	99545	135929	41990

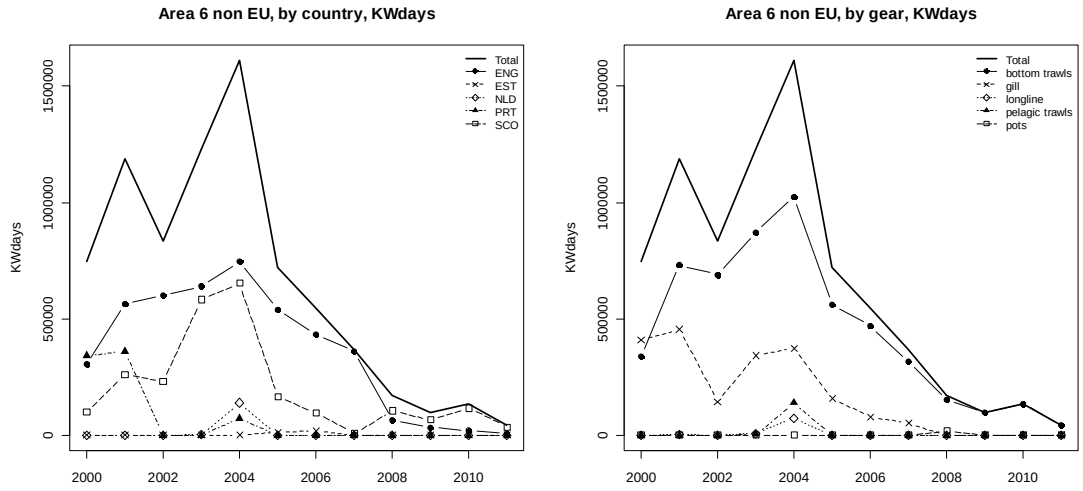


Figure 5.9.1.6.3. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area VI non-EU.

Western Waters VI non-EU

Effort has been declining within this area over time, having peaked in 2004. Effort has increased slightly in 2009 and 2010, but decreased again this year (Table 5.9.1.6.6. and Figure 5.9.1.6.4.).

Bottom trawling is the primary activity, carried out by English and Scottish vessels. Much of the effort had been directed towards deepwater fisheries, however, the increase in effort during the last three years, primarily by Scottish vessels, was not associated with this activity.

At the beginning of the time series, gillnetting also occurred, carried out by England, Scotland and Portugal, and much of this effort was directed toward deepwater fisheries. Since 2006 effort within this category has been minimal. A period of pelagic trawling peaked during the middle of the time series, is now at minimal levels. Effort by Germany using pots in 2010 and 2011 seems to be directed at deep-water red crab.

Table 5.9.1.6.6.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area VI non-EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
6 non EU	bottom trawls	DNK	o15m	0		0	0		0	0		0	12742		12742	0		0
		EST	o40m	0	0		0	0		0	0		0	0		0	0	
		FRA	o15m	0		0	0		0	0		0	0		0	0		0
		UK	o15m	732188	338514	393674	1517384	730549	786835	1431946	689955	741991	1844258	871779	972479	2104337	1024477	1079860
	gill	PRT	o15m	685272	342636	342636	722600	361300	361300	158848	0	158848	0	0	0	51136	0	51136
		UK	o15m	211577	67218	144359	279007	93623	185384	336447	143745	192702	696048	342362	353686	747330	373665	373665
	longline	PRT	o15m	0	0	0	0	0	0	0	0	0	0	0	0	208980	72900	136080
		UK	o15m	26970	0	26970	29770	2580	27190	1111	0	1111	16002	8001	8001	0	0	0
	pelagic trawls	DEU	o15m	0		0	0		0	0		0	9884		9884	0		0
		DNK	o15m	16040		16040	0		0	0		0	0		0	0		0
		NLD	o15m	0	0	0	0	0	0	0	0	0	218849	4398	214451	394668	139938	254730
		UK	o15m	33150		33150	9046		9046	0		0	154562		154562	0		0
	pots	DEU	o15m	0		0	0		0	0		0	0		0	0		0
		UK	o15m	0	0	0	0	0	0	0	0	0	24797	0	24797	0	0	0
Total				1705197	748368	956829	2557807	1188052	1369755	1928352	833700	1094652	2977142	1226540	1750602	3506451	1610980	1895471

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0		0	0		0	0		0	0		0	0		0	0		0	0		0
12656	12656		18080	18080		0	0		0	0		0	0		0	0		0	0	
0		0	0		0	0		0	0		0	0		0	2427		2427	0		0
1101364	548210	553154	925498	451499	473999	681352	316165	365187	310747	151087	159660	315503	99545	215958	571523	135929	435594	327067	41990	285077
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
322077	158627	163450	155922	77961	77961	176703	51126	125577	0	0	0	15317	0	15317	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
88605	0	88605	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	39709		39709	91296		91296
0	0	0	0	0	0	35364	0	35364	39026	19513	19513	0	0	0	0	0	0	0	0	0
1524702	719493	805209	1099500	547540	551960	893419	367291	526128	349773	170600	179173	330820	99545	231275	613659	135929	477730	418363	41990	376373

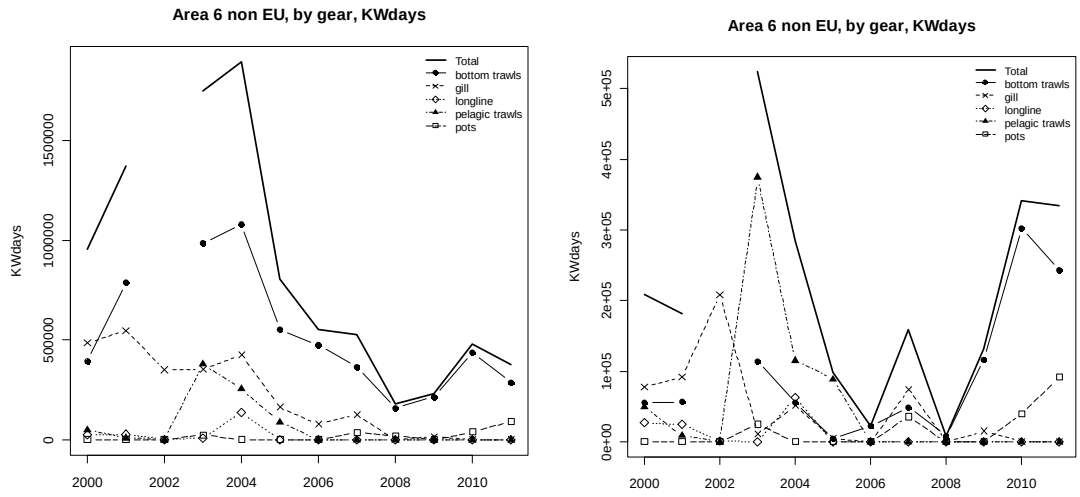


Figure 5.9.1.6.4.- Effort (kW*days) reported within ICES Sub-area VI non-EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort.

5.9.1.7 Fishing effort in ICES area VII excluding VIId

Deepwater VII EU no VIId

Six countries supplied data indicating activity in this area (Tables 5.9.1.7.1, 5.9.1.7.2 and Figure 5.9.1.7.1), however there was only information for one year from Spain. UK, France and Ireland were the predominant countries with the Netherlands also deploying effort in this area throughout the time series. Germany used a small amount in the mid-2000s.

This area has been broken up into Area VII (EU no VIId), EU VIId, and non EU. EU VIId is the eastern English channel and is often associated with the North Sea as much as the English Channel.

With the exception of France where effort has declined by just over 50% in the time period, effort of all other nations has dropped dramatically. For the UK effort has dropped from over 10 million KWdays to just over 2.5 million, and for Ireland it is even more striking, down from 1.6 million KWdays to just under 110,000 KWdays. This is a down to 3.5% of its peak in 2003. Overall, effort in 2011 was just over 30% of the reported value in 2000, which is similar to that reported last year.

Area VII EU no VIId effort is primarily UK otter trawl effort, followed by France and Ireland. Gill net effort in France and the UK has been declining since reaching a peak in 2004. UK also recorded effort by beam trawls and trammel nets but both have declined considerably.

In general the declines in effort reported above are evident in most gears. Longline effort by France had generally increased over the time period, but ceased in 2011, and that of the UK increased up to 2008 before decreasing again. The Netherlands was responsible for most of the pelagic trawling. This effort fluctuated between 2000 and 2005, and became intermittent at low levels after that. However the Netherlands has reported quite high effort again for 2010 and 2011.

Table 5.9.1.7.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area VII EU no VIId.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
7 EU no 7d	DEU				111935	318242	344403		8398				
	ESP										374808		
	FRA	2029867	2388719	7738371	1544420	1236669	1591217	1633554	1424224	992530	981979	965551	688175
	IRL	1576450	2867608	3033612	3290922	2495796	2236290	1158833	811713	607795	128419	107778	130793
	NLD	1146962	219372	535722	150544	636250	299936	22652		53536		482503	225060
	UK	10045990	8779217	8495761	7416387	7135728	6434736	4853687	5235798	4228708	2823796	2999303	2661714
7 EU no 7d Total		14799269	14254916	19803466	12514208	11822685	10906582	7668726	7480133	5882569	4309002	4555135	3705742

Table 5.9.1.7.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area VII EU no VIId.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
7 EU no 7d	BEAM	IRL		59082	5372			17507						
		UK	1724100	1849555	2042735	1780538	1655828	1630596	910940	974833	788631	434315	333812	322008
	BOTTOM TRAWLS	ESP										154898		
		FRA	1729990	1936562	5021776	1142499	944045	1027472	1228501	1011353	705892	695341	757599	576611
		IRL	1326313	2468071	2536986	3036176	2473880	2187958	1127858	749478	603370	128419	107778	130793
		NLD											3385	
		UK	6087037	5025999	4293721	3186388	2846227	2725982	2650833	2908888	2035599	1785167	1871216	1750439
	DREDGE	FRA											110	
		UK	2214											
	GILL	DEU				111935	185086	189137		8398				
		ESP										8985		
		FRA	291082	439105	2708847	396953	261655	555657	351137	245631	219877	219877	129931	107103
		IRL	159080	144985	132049	165956	18916	11875	30975	30385	4425			
		UK	1741337	1336472	1509766	1919589	2262210	1656905	623470	639964	638693	491055	592562	513031
	LONGLINE	ESP										210925		
		FRA	8795	9688			21409	1133	46139	167240	66761	66761	72518	
		IRL	43647	69347	65700	73800	3000	18950		31850				
		UK	396285	442577	546976	458307	305419	352092	615056	691143	746843	110627	172638	70581
	none	IRL		1612										
	PELAGIC TRAWLS	DEU					133156	155266						
		FRA		3364	7748	4968	5912	3355	2479				1620	1768
		IRL	47410	124511	293505	14990								
		NLD	1146962	219372	535722	150544	636250	299936	22652		53536		479118	225060
		UK	40135	72061		34271	41484	50625					27309	
	POTS	FRA					3648						3087	
		UK	2230	2478	5886	545	8376				15155		654	162
	TRAMMEL	FRA						3600	5298				686	2693
		UK	52652	50075	96677	36749	16184	18536	53388	20970	3787	2632	1112	5493
7 EU no 7d Total			14799269	14254916	19803466	12514208	11822685	10906582	7668726	7480133	5882569	4309002	4555135	3705742

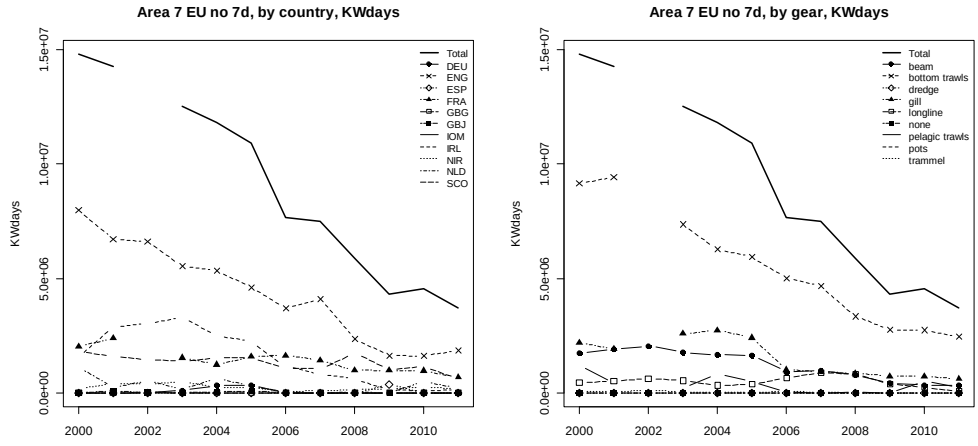


Figure 5.9.1.7.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area VII EU no VIId. Due to the uncertainty in French 2002 data this year has been removed from the figure.

VII EU no VIId Western Waters

There is uncertainty relating to French effort.

Within EU waters of Area VII, excluding VIId a wide variety of activity occurs incorporating a number of nations. Overall effort declined from 2004 until 2007, but has stabilised since. A small increase occurred in 2010 but this has fallen again in 2011. Some of this increase is related to an increase in effort by the Irish and UK pelagic fleets. A relatively small proportion of effort is directed to deepwater fisheries (Table 5.9.1.7.3 and Figure 5.9.1.7.2).

The main gear in use is the bottom trawl, with France the primary contributor followed by Ireland and the UK. Pelagic trawling, dominated by the Netherlands and with smaller amounts by Ireland, UK, France and Germany.

Beam trawling, by England, Belgium and Ireland, has declined over time, likely due to a number of decommissioning schemes removing vessels from the fleet. Over the last three years beam trawl effort amounts have only been slightly higher than dredging (by France, Scotland, England and Ireland). A small amount of effort is also directed toward pots and gillnets.

Table 5.9.1.7.3.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area VII EU no VIId, 2000-2011.

				2000			2001			2002			2003			2004		
			Vessel		Deep	Excluding		Deep	Excluding		Deep	Excluding		Deep	Excluding		Deep	Excluding
Area	Gear	Country	length	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep
7 EU no 7d	beam	BEL	o15m	3307239		3307239	3841067		3841067	4365260		4365260	4799487		4799487	6051749		6051749
		FRA	o10t15m	19608		19608	15582		15582	14707		14707	7217		7217	27252		27252
			o15m	0		0	85561		85561	181057		181057	40289		40289	296461		296461
		IRL	o10t15m	1320		1320	0		0	0		0	0		0	0		0
			o15m	4016703	0	4016703	3769618	59082	3710536	3631366	5372	3625994	4899946	0	4899946	3605637	0	3605637
		NLD	o15m	233246		233246	2184		2184	7048		7048	22000		22000	0		0
		UK	o10t15m	79728	0	79728	193485	442	193043	165844	0	165844	200993	0	200993	81373	0	81373
			o15m	7433347	1724100	5709247	7912351	1849113	6063238	7694348	2042735	5651613	8127451	1780538	6346913	7804560	1655828	6148732
	bottom trawls	BEL	o15m	39210		39210	37083		37083	36086		36086	22209		22209	132868		132868
		DNK	o15m	190022		190022	171401		171401	64410		64410	129218		129218	233528		233528
		ESP	o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	459784	672	459112	504324	0	504324	3109661	0	3109661	1215705	0	1215705	1442682	0	1442682
			o15m	13206469	1729318	11477151	17196415	1936562	15259853	79375146	5021776	74353370	18742825	1142499	17600326	18750583	944045	17806538
		IRL	o10t15m	292972		292972	316604		316604	311512		311512	429700		429700	397518		397518
			o15m	9722140	1326313	8395827	12259073	2468071	9791002	13392738	2536986	10855752	15913782	3036176	12877606	15502568	2473880	13028688
		NLD	o15m	55980	0	55980	216084	0	216084	208550	0	208550	255710	0	255710	64393	0	64393
		UK	o10t15m	2107993	6828	2101165	2042810	5468	2037342	1800138	10473	1789665	1918503	6908	1911595	2100796	5133	2095663
			o15m	19997709	6080209	13917500	17526011	5020531	12505480	15056356	4283248	10773108	13507291	3179480	10327811	11820099	2841094	8979005
	dredge	BEL	o15m	0		0	0		0	0		0	0		0	0		0
		FRA	o10t15m	859043	0	859043	1048444	0	1048444	7828280	0	7828280	2320953	0	2320953	2954269	0	2954269
			o15m	399764		399764	510343		510343	2543721		2543721	631654		631654	904367		904367
		IRL	o10t15m	10671		10671	18238		18238	5518		5518	19763		19763	16170		16170
			o15m	828345		828345	618445		618445	608505		608505	1067220		1067220	1117122		1117122
		NLD	o15m	0		0	54426		54426	56253		56253	153790		153790	136772		136772
		UK	o10t15m	572371		572371	525903		525903	440552		440552	367705		367705	463519		463519
			o15m	2881687	2214	2879473	2875560	0	2875560	2757005	0	2757005	2462116	0	2462116	2353884	0	2353884
	gill	BEL	o15m	0		0	0		0	0		0	0		0	0		0
		DEU	o15m	417051	0	417051	391578	0	391578	377303	0	377303	483073	111935	371138	637467	185086	452381
		ESP	o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	275261	0	275261	273569	0	273569	2213729	0	2213729	740936	0	740936	1015940	0	1015940
			o15m	1098951	291082	807869	1335269	439105	896164	4907293	2708847	2198446	1439679	396953	1042726	1330957	261655	1069302
		IRL	o10t15m	83141		83141	63582		63582	56252		56252	98676		98676	96556		96556
			o15m	1705033	159080	1545953	1439576	144985	1294591	910565	132049	778516	1221509	165956	1055553	872377	18916	853461
		NLD	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	660		660	0		0	0		0	0		0
		UK	o10t15m	423867	135618	288249	506129	157411	348718	493917	144131	349786	518630	146512	372118	567762	151424	416338
			o15m	3566291	1605719	1960572	2725994	1179061	1546933	3026611	1365635	1660976	3955366	1773077	2182289	4557446	2110786	2446660
	longline	DNK	o15m	0		0	0		0	6993		6993	0		0	0		0
		ESP	o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	41782		41782	25673		25673	327200		327200	111426		111426	153667		153667
			o15m	135835	8795	127040	93843	9688	84155	178820	0	178820	123656	0	123656	206045	21409	184636
		IRL	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	120803	43647	77156	203990	69347	134643	135000	65700	69300	165111	73800	91311	7400	3000	4400
		UK	o10t15m	156458	17497	138961	119790	11579	108211	76681	2476	74205	83269	638	82631	66342	1314	65028
			o15m	1109025	378788	730237	1235621	430998	804623	1335267	544500	790767	959089	457669	501420	644405	304105	340300
	none	DNK	o15m	14700		14700	0		0	0		0	0		0	0		0
		FRA	o10t15m	26031		26031	12208		12208	55474		55474	10756		10756	33746		33746
			o15m	205		205	365		365	8717		8717	21008		21008	0		0
		IRL	o10t15m	0		0	0		0	2088		2088	0		0	0		0
			o15m	0	0	0	6193	1612	4581	375	0	375	0	0	0	0	0	0
		UK	o10t15m	0		0	0		0	0		0	0		0	0		0
	pelagic trawls	DEU	o15m	1152412	0	1152412	1029246	0	1029246	1168186	0	1168186	1152793	0	1152793	1370002	133156	1236846
		DNK	o15m	468034		468034	342379		342379	386361		386361	165414		165414	329954		329954
		FRA	o10t15m	38446	0	38446	49777	424	49353	225559	0	225559	111398	0	111398	109005	0	109005
			o15m	1105863	0	1105863	1637623	2940	1634683	5907119	7748	5899371	1772928	4968	1767960	1651471	5912	1645559
		IRL	o10t15m	716		716	8378		8378	1911		1911	6720		6720	7060		7060
			o15m	2764334	47410	2716924	2075295	124511	1950784	2945009	293505	2651504	1580397	14990	1565407	1762567	0	1762567
		LTU	o40m	0		0	0		0	0		0	0		0	0		0
		NLD	o15m	8489963	1146962	7343001	6358984	219372	6139612	5568896	535722	5033174	4929094	150544	4778550	5819324	636250	5183074
		UK	o10t15m	19899		19899	11252		11252	6324		6324	10036		10036	24088		24088
			o15m	1386781	40135	1346646	2310637	72061	2238576	2180794	0	2180794	1921118	34271	1886847	2300342	41484	2258858
	pots	DEU	o15m	0		0	0		0	48951		48951	79821		79821	22932		22932
		FRA	o10t15m	482132	0	482132	680910	0	680910	4388916	0	4388916	1048241	0	1048241	1768450	0	1768450
			o15m	358292	0	358292	301650	0	301650	957513	0	957513	206908	0	206908	314258	3648	310610
		IRL	o10t15m	66827		66827	76572		76572	95186		95186	49481		49481	138065		138065
			o15m	29274		29274	44134		44134	79530		79530	107939		107939	58839		58839
		UK	o10t15m	917570	0	917570	950737	0	950737	1018836	0	1018836	1120189	0	1120189	1116630	0	1116630
			o15m	598575	2230	596345	665287	2478	662809	576335	5886	570449	628418	545	627873	702518	8376	694142
	trammel	FRA	o10t15m	362480	0	362480	428847	0	428847	1376153	0	1376153	463009	0	463009	613504	0	613504
			o15m	140184	0	140184	216520	0	216520	1121650	0	1121650	299226	0	299226	358319	0	358319
		IRL	o10t15m	0		0	0		0	0		0	802		802	0		0
			o15m	0		0	3885		3885	0		0	0		0	172		172
		UK	o10t15m	10240	2939	7301	1983	164	1819	0	0	0	373	0	373	243	0	243
			o15m	126507	49713	76794	155997	49911	106086	209617	96677	112940	105153	36749	68404	70191	16184	54007
Total				94408314	14799269	79609045	97525145	14254916	83270229	1.86E+08	19803466	1.66E+08	1.03E+08	12514208	90432961	1.05E+08	11822685	93163529

2005			2006			2007			2008			2009			2010			2011		
	Deep	Excluding		Deep	Excluding		Deep	Excluding		Deep	Excluding		Deep	Excluding		Deep	Excluding		Deep	Excluding
Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep
5691268		5691268	4400152		4400152	4308567		4308567	2841633		2841633	2596153		2596153	3112466		3112466	3034556		3034556
72001		72001	99790		99790	130720		130720	55970		55970	48196		48196	111460		111460	117792		117792
244545		244545	207818		207818	189856		189856	90473		90473	90473		90473	196958		196958	87754		87754
0		0	0		0	748		748	0		0	0		0	0		0	0		0
3507070	17507	3489563	2560813	0	2560813	2317723	0	2317723	1394546	0	1394546	1090173	0	1090173	1166341	0	1166341	1091130	0	1091130
5884		5884	0		0	0		0	0		0	0		0	1467		1467	0		0
83351	0	83351	61634	0	61634	77449	0	77449	99899	0	99899	49972	0	49972	58997	0	58997	69980	0	69980
7640971	1630596	6010375	6207906	910940	5296966	5960531	974833	4985698	5060882	788631	4272251	4265860	434315	3831545	4020748	333812	3686936	4182626	322008	3860618
232400		232400	458682		458682	541488		541488	535010		535010	498969		498969	439359		439359	318616		318616
75248		75248	120115		120115	73624		73624	54619		54619	146213		146213	33000		33000	0		0
0	0		0	0		0	0		0	0		154898	154898		0	0		0	0	
1330539	0	1330539	2045449	0	2045449	2477485	0	2477485	1442715	0	1442715	1414733	0	1414733	1476483	2814	1473669	1559398	324	1559074
19336142	1027472	18308670	18344571	1228501	17116070	17067271	1011353	16055918	13045737	705892	12339845	12993754	695341	12298413	15884005	754785	15129220	15352804	576287	14776517
398023		398023	466124		466124	619016		619016	554130		554130	637931		637931	707802		707802	654673		654673
14901473	2187958	12713515	11894852	1127858	10766994	11956421	749478	11206943	9959437	603370	9356067	8112181	128419	7983762	9031759	107778	8923981	8918266	130793	8787473
108566	0	108566	162551	0	162551	113851	0	113851	91281	0	91281	216240	0	216240	261901	3385	258516	259780	0	259780
2074133	5626	2068507	2055507	9768	2045739	2156201	18440	2137761	2122125	10101	2112024	2309191	9759	2299432	2232886	1091	2231795	2089842	989	2088853
11336661	2720356	8616305	10279308	2641065	7638243	10111763	2890448	7221315	9005216	2025498	6979718	8028158	1775408	6252750	8629789	1870125	6759664	7887090	1749450	6137640
0		0	0		0	0		0	76714		76714	72828		72828	109230		109230	86264		86264
2755241	0	2755241	3279571	0	3279571	3330398	0	3330398	2518083	0	2518083	2478802	0	2478802	1680805	110	1680695	1680609	0	1680609
644169		644169	719978		719978	852839		852839	788184		788184	788405		788405	664555		664555	540029		540029
2686		2686	24492		24492	38799		38799	63475		63475	75847		75847	93629		93629	140770		140770
584823		584823	188454		188454	326638		326638	249862		249862	300350		300350	379675		379675	404069		404069
198540		198540	130515		130515	179128		179128	146404		146404	213697		213697	77210		77210	0		0
679756		679756	704487		704487	667415		667415	485365		485365	642816		642816	763555		763555	1024510		1024510
2695899	0	2695899	2506785	0	2506785	2534978	0	2534978	2604928	0	2604928	2692357	0	2692357	2456025	0	2456025	2626544	0	2626544
0		0	0		0	0		0	2700		2700	0		0	0		0	0		0
586051	189137	396914	32794	0	32794	180278	8398	171880	229650	0	229650	93910	0	93910	114413	0	114413	91953	0	91953
0	0		0	0		0	0		0	0		8985	8985		0	0		0	0	
904288	0	904288	951675	0	951675	917344	0	917344	704412	0	704412	704349	0	704349	446828	4212	442616	453543	0	453543
1796564	555657	1240907	1347268	351137	996131	1504188	245631	1258557	1755564	219877	1535687	1755237	219877	1535360	1917077	125719	1791358	1696466	107103	1589363
79440		79440	103073		103073	113708		113708	130633		130633	157541		157541	136875		136875	96810		96810
637898	11875	626023	488638	30975	457663	526351	30385	495966	447598	4425	443173	415369	0	415369	409269	0	409269	374722	0	374722
0		0	161		161	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
470560	141351	329209	414855	103130	311725	353768	76449	277319	324324	78641	245683	343468	68803	274665	332528	66162	266366	348683	86313	262370
3379497	1515554	1863943	1377328	520340	856988	1467012	563515	903497	1398436	560052	838384	1226551	422252	804299	1373751	526400	847351	1250050	426718	823332
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0	0		0	0		0	0		0	0		210925	210925		0	0		0	0	
198527		198527	350334		350334	313997		313997	139114		139114	139114		139114	170925		170925	133564		133564
207940	1133	206807	406423	46139	360284	577848	167240	410608	403464	66761	336703	403464	66761	336703	446774	72518	374256	359037	0	359037
4074		4074	1265		1265	9962		9962	16474		16474	26309		26309	21785		21785	14430		14430
87672	18950	68722	0	0	0	77872	31850	46022	31331	0	31331	2856	0	2856	13030	0	13030	3193	0	3193
59722	1161	58561	72621	1106	71515	82052	526	81526	63983	684	63299	43983	1710	42273	51782	1394	50388	54213	736	53477
760923	350931	409992	1327171	613950	713221	1536108	690617	845491	1697128	746159	950969	308438	108917	199521	410927	171244	239683	206423	69845	136578
0		0	0		0	0		0	0		0	0		0	0		0	0		0
76396		76396	41748		41748	6979		6979	16784		16784	16784		16784	0		0	45498		45498
327		327	858		858	6401		6401	5849		5849	5849		5849	0		0	8828		8828
0		0	0		0	383		383	371		371	0		0	52		52	0		0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2130		2130	0		0	0		0	0		0	0		0	0		0	0		0
1091690	155266	936424	856734	0	856734	962635	0	962635	1191573	0	1191573	1095622	0	1095622	1827980	0	1827980	1718554	0	1718554
519088		519088	433696		433696	894249		894249	388076		388076	624347		624347	2201854		2201854	615654		615654
72864	0	72864	79681	0	79681	111755	0	111755	69017	0	69017	69017	0	69017	111331	0	111331	96641	0	96641
1626447	3355	1623092	1718228	2479	1715749	1830063	0	1830063	985998	0	985998	982443	0	982443	2031926	1620	2030306	1699218	1768	1697450
2988		2988	9035		9035	6591		6591	7176		7176	2968		2968	9683		9683	33911		33911
1592041	0	1592041	1362255	0	1362255	2007140	0	2007140	2278960	0	2278960	3540827	0	3540827	4302130	0	4302130	2210304	0	2210304
0		0	0		0	0		0	0		0	246000		246000	0		0	601600		601600
4816713	299936	4516777	4706033	22652	4683381	4252343	0	4252343	6017142	53536	5963606	4570498	0	4570498	6459467	479118	5980349	4336561	225060	4111501
14750		14750	22026		22026	55866		55866	84401		84401	77504		77504	81105		81105	65979		65979
2046060	50625	1995435	1488411	0	1488411	2151804	0	2151804	2392120	0	2392120	2143094	0	2143094	2766010	27309	2738701	1464763	0	1464763
67473		67473	37763		37763	49735		49735	33957		33957	45423		45423	41460		41460	63464		63464
1751646	0	1751646	2194275	0	2194275	1912615	0	1912615	417846	0	417846	417846	0	417846	1037956	3087	1034869	1251737	0	1251737
331470	0	331470	383133	0	383133	367272	0	367272	150231	0	150231	150231	0	150231	372225	0	372225	385966	0	385966
192380		192380	308644		308644	510050		510050	460907		460907	505510		505510	625099		625099	571076		571076
107808		107808	103058		103058	57898		57898	48282		48282	41122		41122	33333		33333	18642		18642
1216782	0	1216782	1059520	0	1059520	1027490	0	1027490	1039277	0	1039277	1216269	0	1216269	1156370	654	1155716	1116998	162	1116836
570137	0	570137	575924	0	575924	670894	0	670894	780369	15155	765214	775325	0	775325	721966	0	721966	712556	0	712556
763828	0	763828	906651	0	906651	1057950	0	1057950	662533	0	662533	662382	0	662382	494208	466	493742	507369	2253	505116
441616	3600	438016	470635	5298	465337	471663	0	471663	381102	0	381102	381102	0	381102	499152	220	498932	495310	440	494870
0		0	6673		6673	18759		18759	23267		23267	30550		30550	30733		30733	27562		27562
16260		16260	13550		13550	6624		6624	22125		22125	7800		7800	35672		35672	23000		23000
16757	5706	11051	10946	3267	7679	22195	8509	13686	20986	2835	18151	18305	1435	16870	3172	0	3172	16093	0	16093
29019	12830	16189	113928	50121	63807	29328	12461	16867	21697	952	20745	4446	1197	3249	15081	1112	13969	77518	5493	72025
1.01E+08	10906582	90232633	90696565	7668726	83027839	92182079	7480133	84701946	78131545	5882569	72248976	73389960	4309002	69080958	84294034	4555135	79738899	75374991	3705742	71669249

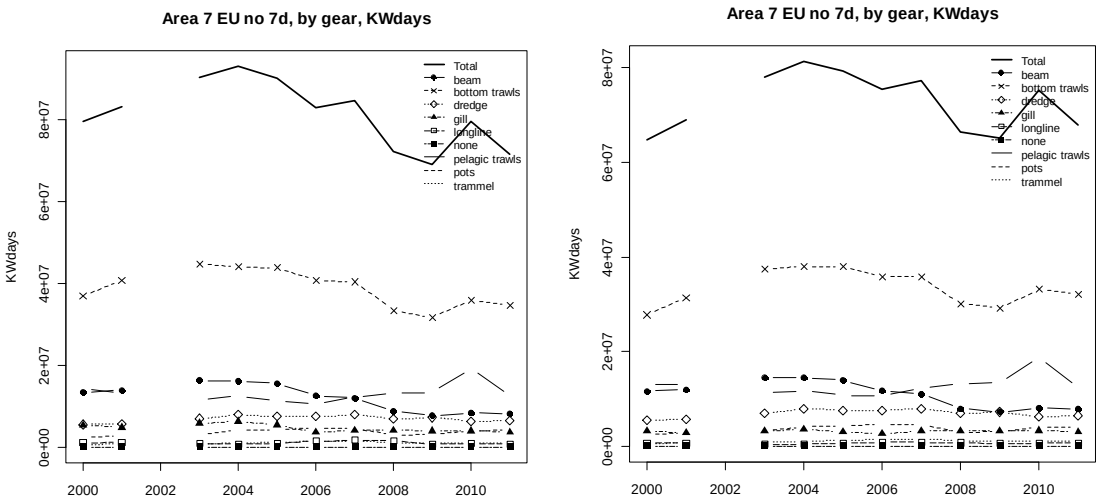


Figure 5.9.1.7.2.- Effort (kW*days) reported within ICES Sub-area VII EU no VIId by gear type, 2000-2011, with (left) and without (right) reported deepwater effort. Due to uncertainty in French 2002 data this year has been removed from the figures.

Deepwater VII non-EU

Prior to 2011 Area VII non EU effort was confined to the UK and stopped in 2004. It was made up of bottom trawling and gill netting. In 2011 France produced a small amount of bottom trawl effort.

Table 5.9.1.7.4.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area VII non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
7 non EU	FRA												442
	UK		3768	3003	906	2519							
7 non EU Total			3768	3003	906	2519							442

Table 5.9.1.7.5.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area VII non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
7 non EU	BOTTOM TRAWLS	FRA												442
		UK		2296		906								
	GILL	UK		1472	3003		2519							
7 non EU Total				3768	3003	906	2519							442

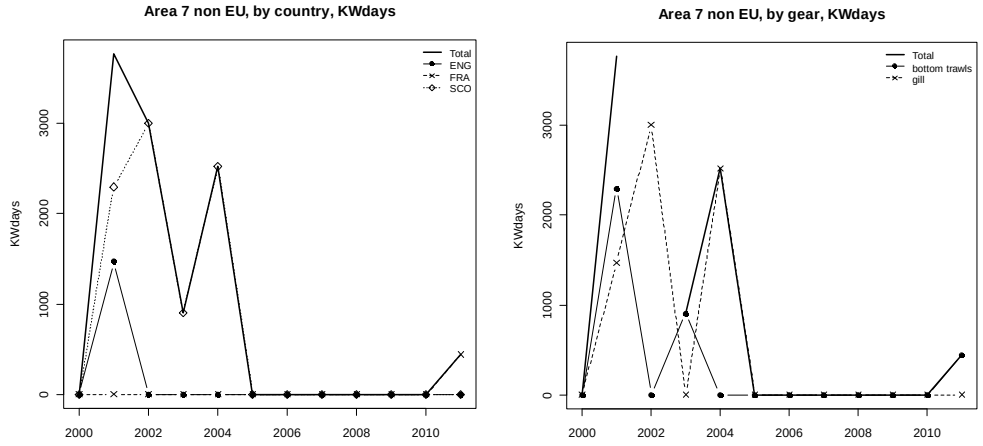


Figure 5.9.1.7.3. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area VII non-EU.

Western Waters VII non-EU

There is uncertainty relating to French effort.

Within EU waters of Area VII, excluding VIId a wide variety of activity occurs incorporating a number of nations. Overall effort declined from 2004 until 2009, whereas an increase occurred in 2010. A relatively small proportion of effort is directed to deepwater fisheries (Table 5.9.1.7.6).

The main gear in use is bottom trawl, with France the primary contributor followed by Ireland. England and Northern Ireland also participate at lower levels of activity. Pelagic trawling, dominated by the Netherlands and with smaller amounts by Ireland, has increased in 2010 owing to increased effort from Ireland in the last two years.

Beam trawling (by England, Belgium and Ireland) has declined over time, likely due to a number of decommissioning schemes removing vessels from the fleet. Over the last three years beam trawl effort amounts have been similar to dredging (by France, Scotland, England and Ireland). A small amount of effort is also directed toward pots and gillnets.

Very little effort occurs within this area (Table 5.9.1.7.6). Pelagic trawling effort occurs sporadically, in particular by the Netherlands, but in the last two years France has also shown some effort. During 2010 there was an increase in effort, directed at longlines and to a lesser extent bottom trawls, and this continued into 2011.

Table 5.9.1.7.6.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area VII non-EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
7 non EU	bottom trawls	FRA	o15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		UK	o15m	0	0	0	4592	2296	2296	0	0	0	1812	906	906	308	0	308
	gill	UK	o15m	0	0	0	2944	1472	1472	6006	3003	3003	0	0	0	5038	2519	2519
	longline	FRA	o15m	0		0	0		0	0		0	0		0	0		0
		PRT	o15m	0		0	0		0	0		0	3302		3302	0		0
		UK	o15m	0		0	5211		5211	0		0	0		0	0		0
	pelagic trawls	DEU	o15m	37093		37093	0		0	0		0	10598		10598	0		0
		FRA	o15m	0		0	0		0	0		0	0		0	0		0
		NLD	o15m	0		0	0		0	0		0	301413		301413	43510		43510
		UK	o15m	0		0	3862		3862	0		0	28928		28928	0		0
Total				37093	0	37093	16609	3768	12841	6006	3003	3003	346053	906	345147	48856	2519	46337

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8232	0	8232	884	442	442
0	0	0	0	0	0	0	0	0	0	0	0	7875	0	7875	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0		0	0		0	0		0	0		0	0		0	8722		8722	4420		4420
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	28325		28325	14713		14713
0		0	0		0	0		0	0		0	0		0	36000		36000	0		0
0		0	0		0	0		0	0		0	0		0	57930		57930	10328		10328
222896		222896	0		0	0		0	0		0	75820		75820	0		0	26164		26164
0		0	0		0	0		0	0		0	0		0	0		0	0		0
222896	0	222896	0	0	0	0	0	0	0	0	0	83695	0	83695	139209	0	139209	56509	442	56067

5.9.1.8 Fishing effort in ICES area VIId

Deepwater

Area VII EU VIId effort is primarily from UK and France. Earlier pelagic effort from the Netherlands stopped in 2004, however in the last two years some bottom trawl effort has been recorded. The effort fluctuates greatly from year to year. 2006 marks a change in effort from English beam to Scottish bottom trawl, although the bottom trawl effort has declined in the last two years, (Figure 5.9.1.8.1).

Table 5.9.1.8.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area VIId.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
7d	FRA	3274	230	66355	9090	27425	43790	5530	4517	1716	1716	12482	21014
	NLD		35596	13240	68230	141760						2708	6000
	UK	16917	16191	18407	42719	14231	22041	1264	41192	127017	59626	19436	14506
7d Total		20191	52017	98002	120039	183416	65831	6794	45709	128733	61342	34626	41520

Table 5.9.1.8.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area VIId.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
7d	BEAM	FRA		230										
		UK	16917	14985	18407	41808	14231	22041	1264	17015	6524			
	BOTTOM TRAWLS	FRA	736						1997	4517			11930	20231
		NLD											2708	6000
		UK		825						24177	120493	59626	19436	14506
	GILL	UK		381										
	LONGLINE	FRA									1716	1716	221	
		UK				911								
	PELAGIC TRAWLS	FRA	2538		66355	9090	27425	43790	3533					220
		NLD		35596	13240	68230	141760							
	POTS	FRA												141
	TRAMMEL	FRA											331	422
7d Total			20191	52017	98002	120039	183416	65831	6794	45709	128733	61342	34626	41520

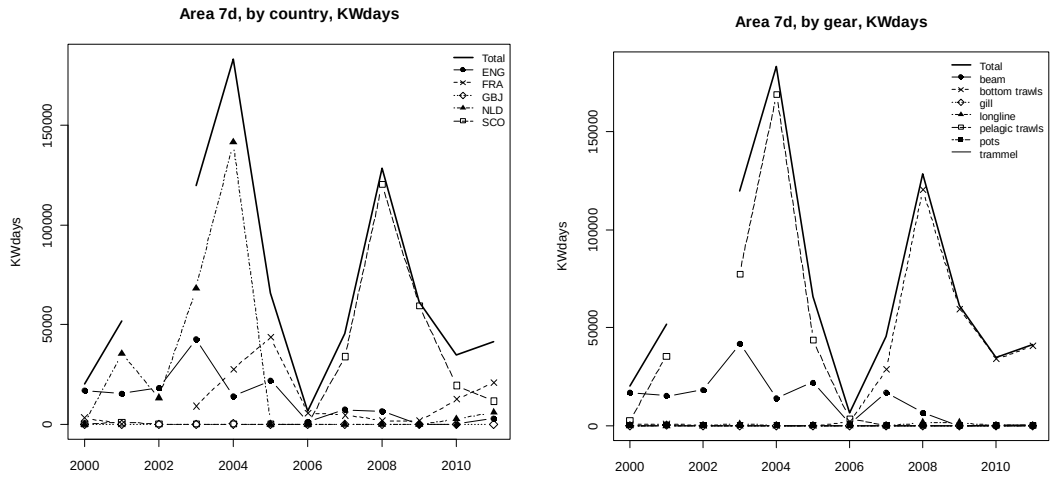


Figure 5.9.1.8.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area VIId. Due to the uncertainty in French 2002 data this year has been removed from the figure.

Western Waters

Effort within Area VIId had been increasing until 2006 after which effort has declined. France is the primary nation operating within this area, driving the overall trends. There is an issue with 2002 French data and therefore this year should be discounted. There is essentially no effort associated with deepwater fisheries (Table 5.9.1.8.3 and Figure 5.9.1.8.2).

While a wide variety of gears are utilised within this area, bottom trawling by France and dredging, also France and the UK, show the greatest effort. Pelagic trawling, in particular by France and the Netherlands, with some minor effort from other nations, beam trawling, mainly by Belgium, with small effort from France and UK, and trammel nets by France account for roughly 10% of the effort each.

Table 5.9.1.8.3.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area VIId, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
7d	beam	BEL	o10t15m	12013		12013	15994		15994	13958		13958	0		0	0		0
			o15m	1884437		1884437	2227183		2227183	2507831		2507831	2583050		2583050	2422541		2422541
		FRA	o10t15m	138547	0	138547	290318	230	290088	1472926	0	1472926	474891	0	474891	447989	0	447989
			o15m	172379		172379	442895		442895	1923052		1923052	673373		673373	950816		950816
		NLD	o15m	1471		1471	2572		2572	4415		4415	0		0	5147		5147
		UK	o10t15m	97725		97725	163200		163200	229080		229080	178756		178756	141022		141022
			o15m	537019	16917	520102	666642	14985	651657	580813	18407	562406	701884	41808	660076	559381	14231	545150
	bottom trawls	BEL	o10t15m	1419		1419	1618		1618	0		0	0		0	0		0
			o15m	23757		23757	19276		19276	7802		7802	2084		2084	27043		27043
		FRA	o10t15m	276361	0	276361	800843	0	800843	4995642	0	4995642	1862829	0	1862829	1984591	0	1984591
			o15m	3572631	736	3571895	6531175	0	6531175	38851172	0	38851172	10842697	0	10842697	11705268	0	11705268
		IRL	o15m	0		0	0		0	0		0	5344		5344	0		0
		NLD	o15m	221430	0	221430	249901	0	249901	175232	0	175232	193684	0	193684	323486	0	323486
		UK	o10t15m	402180		402180	332704		332704	260998		260998	276459		276459	271809		271809
			o15m	59758	0	59758	60456	825	59631	31770	0	31770	47003	0	47003	38842	0	38842
	dredge	BEL	o15m	0		0	0		0	0		0	0		0	0		0
		FRA	o10t15m	288262		288262	1244390		1244390	5338241		5338241	1408038		1408038	1978038		1978038
			o15m	831479		831479	2664630		2664630	12536088		12536088	3272292		3272292	4190146		4190146
		IRL	o15m	0		0	0		0	0		0	139925		139925	208062		208062
		NLD	o15m	20957		20957	20890		20890	24724		24724	121848		121848	88314		88314
		UK	o10t15m	256783		256783	195022		195022	211262		211262	190898		190898	117699		117699
			o15m	182325		182325	162818		162818	133150		133150	333224		333224	324756		324756
	gill	BEL	o10t15m	5322		5322	0		0	0		0	1375		1375	471		471
			o15m	0		0	13299		13299	6049		6049	15232		15232	18120		18120
		DEU	o15m	844		844	0		0	0		0	0		0	0		0
		FRA	o10t15m	81309		81309	301156		301156	1620316		1620316	428866		428866	230389		230389
			o15m	94649		94649	42072		42072	708558		708558	135124		135124	111106		111106
		NLD	o15m	0		0	0		0	0		0	0		0	0		0
		UK	o10t15m	29092		29092	9511		9511	1815		1815	4498		4498	3373		3373
			o15m	0	0	0	1791	381	1410	0	0	0	0	0	0	0	0	0
	longline	FRA	o10t15m	9911	0	9911	25838	0	25838	953160	0	953160	88085	0	88085	103303	0	103303
			o15m	50883		50883	80671		80671	411504		411504	56719		56719	60067		60067
		UK	o10t15m	37956		37956	35448		35448	44879		44879	43692		43692	31882		31882
			o15m	0	0	0	0	0	0	0	0	0	1822	911	911	0	0	0
	none	FRA	o10t15m	5145		5145	2058		2058	0		0	102507		102507	85409		85409
			o15m	0		0	0		0	10744		10744	53068		53068	87408		87408
	pelagic trawls	DEU	o15m	306752		306752	186367		186367	202281		202281	192238		192238	256061		256061
		FRA	o10t15m	3995	0	3995	36087	0	36087	583735	0	583735	334671	0	334671	265198	0	265198
			o15m	814740	2538	812202	1339409	0	1339409	5023642	66355	4957287	1500924	9090	1491834	1902120	27425	1874695
		IRL	o15m	11700		11700	0		0	13843		13843	0		0	0		0
		LTU	o40m	0		0	0		0	0		0	0		0	0		0
		NLD	o15m	2170260	0	2170260	2185545	35596	2149949	1564122	13240	1550882	2528819	68230	2460589	2106996	141760	1965236
		UK	o10t15m	0		0	464		464	0		0	1639		1639	0		0
			o15m	383735		383735	464920		464920	319270		319270	405297		405297	494592		494592
	pots	FRA	o10t15m	43649	0	43649	61304	0	61304	603473	0	603473	67772	0	67772	79729	0	79729
			o15m	29488		29488	31730		31730	114920		114920	13342		13342	36717		36717
		UK	o10t15m	295630		295630	347305		347305	378363		378363	455318		455318	405275		405275
			o15m	60211		60211	58155		58155	52021		52021	57062		57062	65360		65360
	trammel	BEL	o15m	0		0	0		0	0		0	0		0	0		0
		FRA	o10t15m	174556	0	174556	938665	0	938665	7057120	0	7057120	1938504	0	1938504	2116989	0	2116989
			o15m	91079	0	91079	327867	0	327867	1464752	0	1464752	615347	0	615347	515961	0	515961
		UK	o10t15m	3666		3666	5288		5288	7301		7301	11295		11295	8742		8742
Total				13685505	20191	13665314	22587477	52017	22535460	90440024	98002	90342022	32361495	120039	32241456	34770218	183416	34586802

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0		0	0		0	0		0	0		0	0		0	0		0	0		0
2070380		2070380	2782454		2782454	3184292		3184292	2696039		2696039	2226560		2226560	1921946		1921946	1781001		1781001
319077	0	319077	562145	0	562145	588358	0	588358	497791	0	497791	497791	0	497791	395548	0	395548	398689	0	398689
668392		668392	747367		747367	574879		574879	656013		656013	656013		656013	184402		184402	147537		147537
0		0	4796		4796	0		0	0		0	1471		1471	0		0	663		663
137624		137624	156183		156183	147478		147478	188710		188710	200039		200039	186882		186882	161558		161558
318493	22041	296452	204345	1264	203081	207495	17015	190480	189164	6524	182640	207118	0	207118	84353	0	84353	39435	0	39435
0		0	0		0	0		0	0		0	0		0	0		0	2170		2170
10924		10924	23328		23328	13756		13756	15816		15816	46344		46344	142527		142527	177475		177475
2014199	0	2014199	2964467	525	2963942	3174239	0	3174239	2260060	0	2260060	2256872	0	2256872	1757627	0	1757627	2043889	2860	2041029
10835136	0	10835136	11146768	1472	11145296	10479089	4517	10474572	8140065	0	8140065	7908201	0	7908201	5609023	11930	5597093	5136775	17371	5119404
0		0	0		0	0		0	0		0	0		0	0		0	0		0
344814	0	344814	287224	0	287224	434839	0	434839	625656	0	625656	608242	0	608242	730727	2708	728019	617819	6000	611819
251054		251054	173281		173281	151491		151491	144447		144447	142263		142263	148559		148559	137062		137062
64801	0	64801	156541	0	156541	250017	24177	225840	529374	120493	408881	537082	59626	477456	498911	19436	479475	575267	14506	560761
0		0	0		0	3723		3723	18490		18490	85486		85486	75562		75562	40754		40754
2658944		2658944	3199963		3199963	2627561		2627561	2463234		2463234	2455520		2455520	1801763		1801763	2233550		2233550
5370590		5370590	5919406		5919406	5018197		5018197	4307266		4307266	4284322		4284322	2561916		2561916	3143882		3143882
51300		51300	0		0	0		0	0		0	0		0	0		0	884		884
59562		59562	119581		119581	97064		97064	146896		146896	130823		130823	93755		93755	0		0
130483		130483	105802		105802	143027		143027	137115		137115	99235		99235	215993		215993	150978		150978
257658		257658	500927		500927	655748		655748	543055		543055	837246		837246	1996715		1996715	1719835		1719835
0		0	0		0	0		0	4710		4710	0		0	3685		3685	0		0
19026		19026	23556		23556	906		906	5850		5850	19527		19527	7200		7200	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
205371		205371	237516		237516	350342		350342	132543		132543	132543		132543	63930		63930	35458		35458
37647		37647	63609		63609	36151		36151	18452		18452	18452		18452	34731		34731	9727		9727
0		0	442		442	0		0	0		0	0		0	0		0	0		0
219		219	2529		2529	1699		1699	4957		4957	11818		11818	25516		25516	25787		25787
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91082	0	91082	100220	0	100220	122800	0	122800	105029	1716	103313	105029	1716	103313	106162	221	105941	84953	0	84953
6229		6229	14522		14522	39773		39773	13367		13367	13367		13367	12273		12273	1559		1559
39988		39988	40165		40165	37362		37362	39699		39699	38462		38462	45672		45672	38205		38205
0	0	0	0	0	0	561	0	561	0	0	0	0	0	0	0	0	0	0	0	0
2468		2468	4036		4036	15289		15289	84558		84558	84558		84558	0		0	4141		4141
0		0	28908		28908	4314		4314	157051		157051	157051		157051	0		0	0		0
252645		252645	222395		222395	225990		225990	168359		168359	166693		166693	298994		298994	360449		360449
411922	0	411922	368239	0	368239	504108	0	504108	317645	0	317645	317367	0	317367	180417	0	180417	197951	220	197731
2025365	43790	1981575	2138178	3533	2134645	1773861	0	1773861	1323773	0	1323773	1323773	0	1323773	898279	0	898279	593833	0	593833
0		0	20000		20000	0		0	33000		33000	100940		100940	0		0	0		0
0		0	0		0	0		0	0		0	19680		19680	0		0	0		0
1838845	0	1838845	1277534	0	1277534	1613832	0	1613832	1588572	0	1588572	1714632	0	1714632	1451892	0	1451892	682597	0	682597
1218		1218	870		870	0		0	0		0	0		0	0		0	0		0
449401		449401	288491		288491	481527		481527	263669		263669	306734		306734	218563		218563	117360		117360
132541	0	132541	314291	0	314291	226545	0	226545	91168	0	91168	91168	0	91168	704266	0	704266	348857	141	348716
77214		77214	75462		75462	90988		90988	53385		53385	53385		53385	12940		12940	10352		10352
444340		444340	384311		384311	437980		437980	376464		376464	320261		320261	372153		372153	385264		385264
101017		101017	107967		107967	124160		124160	104667		104667	81433		81433	66317		66317	68775		68775
0		0	0		0	26676		26676	16200		16200	7416		7416	21600		21600	28030		28030
2505884	0	2505884	2979380	0	2979380	2945844	0	2945844	2052319	0	2052319	2048565	0	2048565	1577272	331	1576941	1615044	0	1615044
802345	0	802345	702341	0	702341	642980	0	642980	559170	0	559170	559170	0	559170	219436	0	219436	224674	422	224252
9183		9183	6081		6081	7708		7708	9580		9580	5786		5786	8012		8012	8023		8023
35017381	65831	34951550	38455621	6794	38448827	37462649	45709	37416940	31083378	128733	30954645	30878438	61342	30817096	24735519	34626	24700893	23350262	41520	23308742

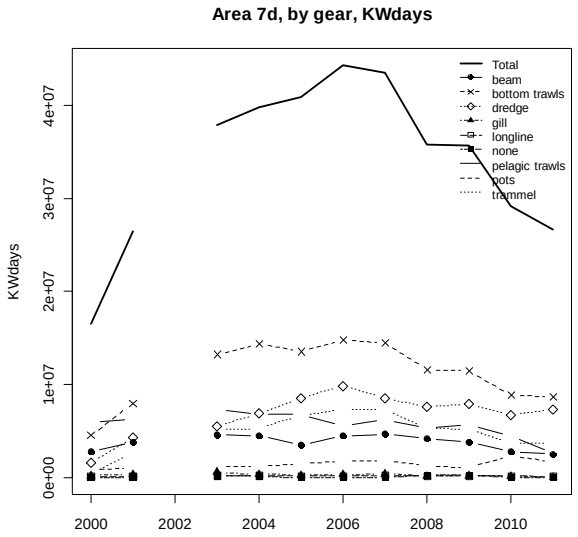


Figure 5.9.1.8.2.- Effort (kW*days) reported within ICES Sub-area VIId by gear type, 2000-2011, with (left) and without (right) reported deepwater effort. Due to uncertainty in French 2002 data this year has been removed from the figures.

5.9.1.9 Fishing effort in the Biologically Sensitive Area

There is uncertainty relating to 2002 French effort.

Current fishing effort within the BSA is the lowest in the time series. From a peak in 2003 there was a gradual decline until 2006 after which effort fluctuated. In 2011 there was a 20% decrease compared to 2010, (Table 5.9.1.9.1 and Figure 5.9.1.9.1). Overall, bottom trawl effort predominates within the area, in common with the picture for the wider EU waters of Area VII. France and Ireland provide the majority of this effort. Both countries contributed similar amounts until 2009 but in 2010 and 2011 Irish effort increased while France decreased. Minimal levels of UK effort occur over the period.

A number of other gears are used within the BSA. Pelagic trawls effort had increased in recent years, in particular by Irish and German vessels, while effort from the Netherlands has stayed constant. Pelagic effort has decreased again in 2011 however. Gillnetting, by France, Ireland and England, shows a decline in effort following that of French trawl effort. Beam trawling carried out almost exclusively by Ireland showed a pronounced decline until 2008 after which effort stabilised. However this effort was reduced by nearly 50% in 2011.

The use of pots and dredges in the area is low, however both gears show marked increases in most recent years. Both gears are used almost exclusively by Ireland.

Table 5.9.1.9.1.- Effort (kW*days) by country, gear and vessel size group within the BSA Area, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
BSA	beam	FRA	o10t15m	0		0	0		0	0		0	147		147	1028		1028
			o15m	0		0	0		0	0		0	736		736	0		0
		IRL	o10t15m	1320		1320	0		0	0		0	0		0	0		0
			o15m	2476553		2476553	2446989		2446989	2493468		2493468	3057578		3057578	2024402		2024402
		UK	o15m	182376		182376	123283		123283	72789		72789	128358		128358	126299		126299
	bottom trawls	FRA	o10t15m	0		0	729		729	0		0	9717		9717	2469		2469
			o15m	4624713		4624713	6021542		6021542	30013150		30013150	7359217		7359217	6558503		6558503
		IRL	o10t15m	197249		197249	206432		206432	251398		251398	363720		363720	361385		361385
			o15m	3839065		3839065	4235608		4235608	5440454		5440454	6357592		6357592	6239288		6239288
		NLD	o15m	0		0	8796		8796	734		734	19680		19680	0		0
		UK	o10t15m	0		0	0		0	0		0	187		187	0		0
			o15m	3227505		3227505	2195572		2195572	1929037		1929037	1415472		1415472	1522731		1522731
	dredge	FRA	o10t15m	0		0	3696		3696	18306		18306	3796		3796	2099		2099
			o15m	2216		2216	0		0	16935		16935	981		981	5618		5618
		IRL	o10t15m	505		505	14758		14758	5518		5518	19763		19763	16170		16170
			o15m	162716		162716	91984		91984	13806		13806	130279		130279	87392		87392
		UK	o10t15m	0		0	198		198	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	4157		4157	0		0
	gill	DEU	o15m	24420		24420	5404		5404	7514		7514	32698		32698	38186		38186
		FRA	o10t15m	0		0	0		0	0		0	0		0	1206		1206
			o15m	323241		323241	456239		456239	3381794		3381794	954326		954326	947097		947097
		IRL	o10t15m	60425		60425	38606		38606	38941		38941	59748		59748	66732		66732
			o15m	474484		474484	533290		533290	556104		556104	736368		736368	634358		634358
		UK	o10t15m	6650		6650	3869		3869	9590		9590	26954		26954	26637		26637
			o15m	573745		573745	371815		371815	326192		326192	323367		323367	465976		465976
	longline	FRA	o10t15m	0		0	0		0	1112		1112	4356		4356	0		0
			o15m	79946		79946	40848		40848	192312		192312	15741		15741	12698		12698
		IRL	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	28314		28314	22068		22068	0		0	14346		14346	0		0
		UK	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	24055		24055	10486		10486	64101		64101	60113		60113	33687		33687
	none	FRA	o15m	0		0	0		0	0		0	0		0	0		0
		IRL	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	3872		3872	375		375	0		0	0		0
	pelagic trawls	DEU	o15m	332939		332939	219170		219170	201377		201377	417205		417205	461106		461106
		FRA	o10t15m	970		970	0		0	0		0	0		0	0		0
			o15m	275303		275303	253786		253786	500927		500927	309251		309251	208006		208006
		IRL	o10t15m	0		0	448		448	0		0	1960		1960	2650		2650
			o15m	1079314		1079314	958056		958056	852818		852818	613744		613744	853756		853756
		NLD	o15m	1074997		1074997	2057215		2057215	478739		478739	1151065		1151065	1633095		1633095
		UK	o15m	368288		368288	777784		777784	535104		535104	376844		376844	1090954		1090954
	pots	DEU	o15m	0		0	0		0	0		0	0		0	441		441
		FRA	o10t15m	0		0	0		0	0		0	0		0	220		220
			o15m	9921		9921	4905		4905	2224		2224	5847		5847	21105		21105
		IRL	o10t15m	66103		66103	76572		76572	88680		88680	40748		40748	93647		93647
			o15m	1201		1201	1074		1074	0		0	2871		2871	1581		1581
		UK	o10t15m	0		0	0		0	0		0	0		0	44		44
			o15m	956		956	0		0	0		0	0		0	0		0
	trammel	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	8040		8040	7864		7864
		IRL	o10t15m	0		0	0		0	0		0	160		160	0		0
			o15m	0		0	3885		3885	0		0	0		0	0		0
		UK	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	12336		12336	9829		9829
Total				19519490	0	19519490	21188979	0	21188979	47493499	0	47493499	24039468	0	24039468	23558259	0	23558259

Continued.

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0	0	0	0	0	0	440	0	440	0	0	0	0	0	0	2017	0	2017	3755	0	3755
0	0	0	657	0	657	831	0	831	0	0	0	0	0	0	1598	0	1598	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2366210	0	2366210	1426734	0	1426734	1145248	0	1145248	695074	0	695074	653053	0	653053	662489	0	662489	356556	0	356556
124991	0	124991	126605	0	126605	11012	0	11012	3848	0	3848	23408	0	23408	60723	0	60723	105041	0	105041
5779	0	5779	837	0	837	2594	0	2594	6991	0	6991	5961	0	5961	9246	0	9246	17885	0	17885
5986029	0	5986029	5796059	0	5796059	5720768	0	5720768	4607029	0	4607029	4567101	0	4567101	2984866	0	2984866	2413727	0	2413727
318867	0	318867	341772	0	341772	450099	0	450099	452538	0	452538	533293	0	533293	598930	0	598930	522458	0	522458
5318872	0	5318872	4456909	0	4456909	4860493	0	4860493	4560695	0	4560695	4697506	0	4697506	4799234	0	4799234	4228545	0	4228545
0	0	0	0	0	0	762	0	762	0	0	0	1530	0	1530	708	0	708	0	0	0
0	0	0	0	0	0	326	0	326	468	0	468	0	0	0	0	0	0	0	0	0
1300887	0	1300887	1462318	0	1462318	1451771	0	1451771	1521869	0	1521869	1466369	0	1466369	1844838	0	1844838	1705841	0	1705841
7030	0	7030	965	0	965	12082	0	12082	7596	0	7596	7596	0	7596	17964	0	17964	17333	0	17333
6993	0	6993	0	0	0	5399	0	5399	5781	0	5781	5781	0	5781	16595	0	16595	30191	0	30191
2686	0	2686	5237	0	5237	6625	0	6625	16726	0	16726	15758	0	15758	22500	0	22500	31239	0	31239
97290	0	97290	38072	0	38072	45932	0	45932	58134	0	58134	109653	0	109653	78890	0	78890	71995	0	71995
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	5379	0	5379	0	0	0	972	0	972	0	0	0
18512	0	18512	0	0	0	4862	0	4862	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	6391	0	6391	6391	0	6391	0	0	0	500	0	500
1144216	0	1144216	963379	0	963379	1027582	0	1027582	707073	0	707073	707073	0	707073	404952	0	404952	515920	0	515920
58528	0	58528	80160	0	80160	87793	0	87793	115964	0	115964	142690	0	142690	121206	0	121206	86532	0	86532
463542	0	463542	290983	0	290983	379623	0	379623	382348	0	382348	370007	0	370007	351139	0	351139	331027	0	331027
16009	0	16009	21005	0	21005	6134	0	6134	7015	0	7015	11998	0	11998	20617	0	20617	15542	0	15542
232034	0	232034	216328	0	216328	226793	0	226793	162279	0	162279	193309	0	193309	168904	0	168904	145293	0	145293
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1345	0	1345	103	0	103
20472	0	20472	84008	0	84008	11587	0	11587	104854	0	104854	104854	0	104854	19111	0	19111	75389	0	75389
436	0	436	251	0	251	5757	0	5757	11421	0	11421	18772	0	18772	11695	0	11695	8148	0	8148
21511	0	21511	0	0	0	2330	0	2330	699	0	699	2856	0	2856	7030	0	7030	1645	0	1645
0	0	0	111	0	111	0	0	0	0	0	0	368	0	368	0	0	0	0	0	0
53318	0	53318	82747	0	82747	108263	0	108263	204915	0	204915	11281	0	11281	5909	0	5909	0	0	0
0	0	0	0	0	0	2652	0	2652	0	0	0	0	0	0	0	0	0	1912	0	1912
0	0	0	0	0	0	233	0	233	275	0	275	0	0	0	52	0	52	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203082	0	203082	59606	0	59606	95556	0	95556	221226	0	221226	607073	0	607073	336430	0	336430	617935	0	617935
444	0	444	0	0	0	0	0	0	1064	0	1064	1064	0	1064	5465	0	5465	3130	0	3130
326643	0	326643	212989	0	212989	249834	0	249834	156242	0	156242	156242	0	156242	321813	0	321813	162453	0	162453
0	0	0	0	0	0	827	0	827	3788	0	3788	2357	0	2357	3984	0	3984	8660	0	8660
725256	0	725256	640447	0	640447	1206605	0	1206605	1158363	0	1158363	1646789	0	1646789	2034804	0	2034804	552330	0	552330
967750	0	967750	1211930	0	1211930	1516373	0	1516373	1560452	0	1560452	1778313	0	1778313	1506957	0	1506957	1598172	0	1598172
519171	0	519171	265739	0	265739	329882	0	329882	483230	0	483230	859531	0	859531	1292740	0	1292740	442094	0	442094
0	0	0	6464	0	6464	1727	0	1727	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1694	0	1694	148	0	148	148	0	148	2031	0	2031	4793	0	4793
3892	0	3892	5739	0	5739	410	0	410	441	0	441	441	0	441	2210	0	2210	400	0	400
124598	0	124598	67897	0	67897	181751	0	181751	170391	0	170391	177863	0	177863	216923	0	216923	193354	0	193354
671	0	671	7945	0	7945	8842	0	8842	7893	0	7893	6637	0	6637	5131	0	5131	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	168	0	168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4374	0	4374	35684	0	35684	23449	0	23449	19152	0	19152	19152	0	19152	16751	0	16751	19183	0	19183
4994	0	4994	29880	0	29880	18218	0	18218	20679	0	20679	20679	0	20679	8525	0	8525	11844	0	11844
0	0	0	6074	0	6074	18369	0	18369	21941	0	21941	28328	0	28328	30554	0	30554	26680	0	26680
0	0	0	0	0	0	6624	0	6624	22125	0	22125	7800	0	7800	35120	0	35120	23000	0	23000
2050	0	2050	1979	0	1979	1273	0	1273	410	0	410	1531	0	1531	1025	0	1025	4100	0	4100
6178	0	6178	11869	0	11869	4781	0	4781	1886	0	1886	2052	0	2052	4198	0	4198	11413	0	11413
20453315	0	20453315	17959547	0	17959547	19244206	0	19244206	17494793	0	17494793	18972608	0	18972608	18038191	0	18038191	14366118	0	14366118

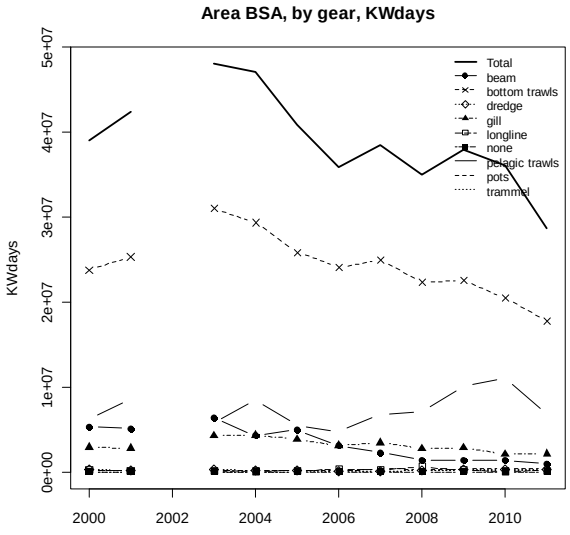


Figure 5.9.1.9.1.- Effort (kW*days) reported within the BSA by gear type, 2000-2011, with (left) and without (right) reported deepwater effort. Due to uncertainty in French 2002 data this year has been removed from the figures.

5.9.1.10 Fishing effort in ICES area VIII

Deepwater VIII EU

Most of the effort in this area was contributed by four countries as shown in Tables 5.9.1.10.1 and 5.9.1.10.2. UK, France, Spain and Netherlands were the main countries, with small amounts from Ireland, Portugal and Germany on occasion. Netherlands effort declined to zero in 2007, but more was recorded again in 2010. UK and French effort increased to the mid 2000s but has since declined. Spanish effort was stable at low levels between 2002 and 2008, before recording a major increase in 2009. After this peak no data has been recorded for Spain in this area. Overall, effort in 2010 was 60% of the reported value in 2000.

Figure 5.9.1.10.1 shows trends in effort by country and by main gears illustrating that bottom trawls were the most important followed by pelagic trawls, gill nets and longlines. In general the pattern of peak effort in the mid 2000s followed by decline is evident in all gears. There was a peak of effort in both bottom trawl and longlines in 2009 but this had decreased again in 2010.

Bottom trawl was the predominant gear used in this region, with 92% of the effort reported by France. Netherlands effort comprised the majority of the pelagic trawling. Gill net effort was initially confined to France but since 2004 the UK has been contributing 50%. Over the time series the majority of the longline effort came from the UK, but Spain reported large effort for 2009. In 2011 France reported large effort for trammel nets. Netherlands contributed the majority of the pelagic effort but, apart from 2010, this ceased in 2006.

Table 5.9.1.10.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area VIII EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 EU	DEU					22626							
	ESP			176264	191014	119988	142950	142037	199227	158387	971345		
	FRA	206775	198432	1221537	289751	287276	572978	563460	330069	330114	326333	296990	222426
	IRL	23400		2500									
	NLD	328154	200158	734687	49974	22284	26400	35596				67980	
	PRT			4069	9663	10329				1089			
	UK	5971	20365	119176	87112	195594	131379	351815	108637	102356	29684	84664	97763
8 EU Total		564300	418955	2258233	627514	658097	873707	1092908	637933	591946	1327362	449634	320189

Table 5.9.1.10.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area VIII EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 EU	BEAM	UK									880			
	BOTTOM TRAWLS	ESP			159589	147836	78301	59641	75924	133403	84600	285745		
		FRA	141365	161208	999557	177729	229630	473093	424001	194049	280599	276818	173738	147863
		PRT									1089			
		UK											6943	
	DREDGE	FRA												73
	GILL	ESP			5124	10091	8707	20233	17137	2638	3814	129719		
		FRA	53458	24366	88991	95204	53378	78282	117246	121418	20269	20269	28215	21244
		UK			2730		89612	67015	278374	57053	58969	29684	51074	18881
	LONGLINE	ESP			7884	24830	31131	60298	48533	61414	63745	538568		
		FRA	5379	10849	2054			1417	2674	407	19486	19486	76154	41262
		PRT			4069	9663	10329							
		UK	5971	20365	63052	87112	105982	64364	73441	51584	41960		12761	78882
	none	ESP			3667	8196	1849	2778	358	1544	3889	11863		
	PELAGIC TRAWLS	DEU					22626							
		ESP									2273	5406		
		FRA	3807		116371	8225		7442	10239	6521			13619	882
		IRL	23400		2500									
		NLD	328154	200158	734687	49974	22284	26400	35596				67980	
		UK			53394								13886	
	POTS	FRA						1596					2464	
	TRAMMEL	ESP				61			85	228	66	44		
		FRA	2766	2009	14564	8593	4268	11148	9300	7674	9760	9760	2800	11102
		UK									547			
8 EU Total			564300	418955	2258233	627514	658097	873707	1092908	637933	591946	1327362	449634	320189

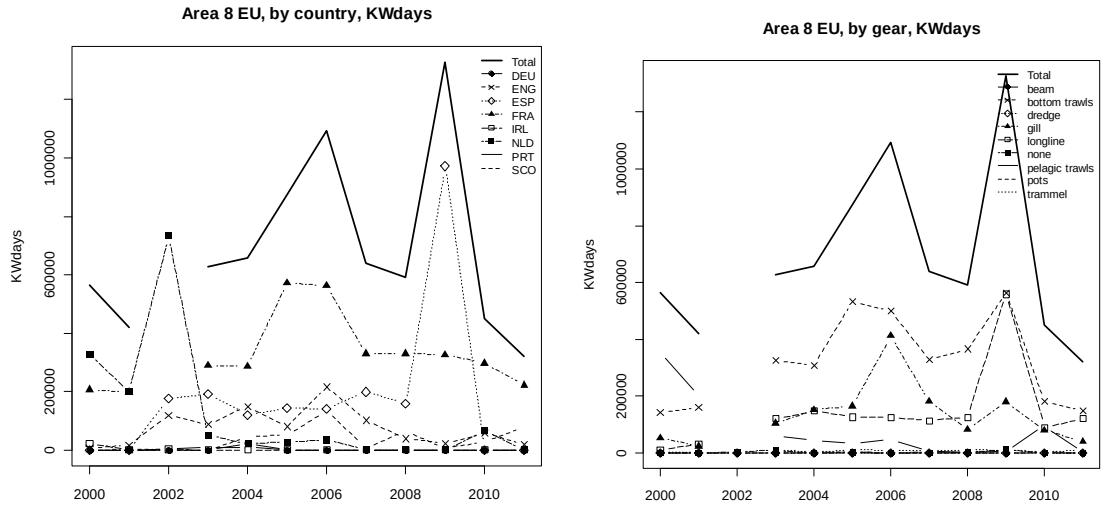


Figure 5.9.1.10.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area VIII EU. Due to the uncertainty in French 2002 data this year has been removed from the figure.

Western Waters VIII EU

Note: There is great uncertainty relating to effort descriptions of this area. Figures should only be considered between 2003 and 2009. Issues appear in French 2002 data and there is uncertainty around 2010 data. Spain did not provide information for 2010 or 2011.

Two nations primarily fish this area, France and Spain. The overall trend has fluctuated within this area with greatest effort around 2006/2007 following increased French effort. With the lack of Spanish data in 2010 and 2011 it is impossible to provide information on recent effort trends. Little effort is associated with deepwater fisheries (Table 5.9.1.10.3 and Figure 5.9.1.10.2).

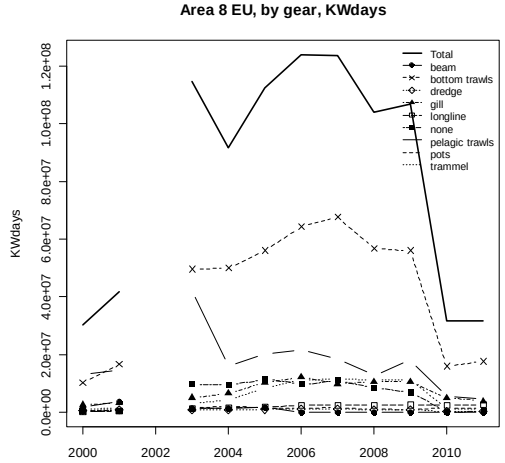
Most effort occurs with bottom trawling gear, dominated by France. French bottom trawl effort in 2010 and 2011 is approximately 40% of what it was in the preceding five years. The remainder of the effort is Spanish. A small (1-2%) proportion of effort is contributed by Portugal. Pelagic trawling accounts for around 12-18% of effort within the area, again primarily by France and Spain.

Other gears are used within the area to lesser extents, with trammel and gillnetting accounting for around 10% each, both have shown an increase over the period. France is again the dominant nation using both gear classes, particularly within the trammel category.

Table 5.9.1.10.3.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area VIII EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
8 EU	beam	BEL	o15m	913195		913195	820583		820583	771813		771813	618667		618667	656093		656093
		FRA	o10t15m	0		0	0		0	0		0	15860		15860	16628		16628
			o15m	0		0	0		0	0		0	0		0	9728		9728
		IRL	o15m	0		0	0		0	0		0	0		0	1492		1492
		NLD	o15m	0		0	973068		973068	0		0	0		0	0		0
		UK	o15m	0	0	0	0	0	0	0	0	0	220	0	220	0	0	0
	bottom trawls	DNK	o15m	32818		32818	1411		1411	0		0	0		0	0		0
		ESP	none	0	0	0	0	0	0	7820818	159589	7661229	13422846	147836	13275010	11424658	78301	11346357
			o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	1207131	592	1206539	2068789	0	2068789	8727547	0	8727547	3067089	0	3067089	3820668	461	3820207
			o15m	3852838	140773	3712065	6362479	161208	6201271	32414355	999557	31414798	8533992	177729	8356263	9899665	229169	9670496
		IRL	o15m	0		0	242		242	11050		11050	10028		10028	10663		10663
		NLD	o15m	0		0	0		0	0		0	0		0	0		0
		PRT	o15m	140423	0	140423	54732	0	54732	82622	0	82622	25281	0	25281	2796	0	2796
		UK	o10t15m	1364		1364	94		94	0		0	0		0	0		0
			o15m	11677	0	11677	0	0	0	7489	0	7489	67484	0	67484	129094	0	129094
	dredge	ESP	none	0		0	0		0	0		0	0		0	0		0
		FRA	o10t15m	257278	0	257278	331011	0	331011	1350691	0	1350691	397245	0	397245	424849	0	424849
			o15m	3189		3189	885		885	13770		13770	620		620	4130		4130
		IRL	o15m	0		0	0		0	0		0	17804		17804	0		0
		UK	o10t15m	0		0	220		220	407		407	0		0	0		0
			o15m	0		0	29307		29307	0		0	0		0	0		0
	gill	ESP	none	0	0	0	0	0	0	1010066	5124	1004942	904997	10091	894906	1222289	8707	1213582
			o10t15m	0	0		0	0		0	0		0	0		0	0	
			o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	279195	482	278713	487657	0	487657	1835097	0	1835097	586583	0	586583	740538	0	740538
			o15m	1014641	52976	961665	1187651	24366	1163285	4268636	88991	4179645	1153760	95204	1058556	1240397	53378	1187019
		IRL	o10t15m	0		0	0		0	0		0	144		144	0		0
			o15m	12116		12116	0		0	0		0	0		0	1800		1800
		UK	o10t15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			o15m	0	0	0	871	0	871	5460	2730	2730	7163	0	7163	204750	89612	115138
	longline	ESP	none	0	0	0	0	0	0	231805	7884	223921	303840	24830	279010	315140	31131	284009
			o10t15m	0	0		0	0		0	0		0	0		0	0	
			o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	33922	802	33120	112672	6838	105834	506778	2054	504724	82748	0	82748	144520	0	144520
			o15m	62247	4577	57670	74306	4011	70295	433331	0	433331	155703	0	155703	165058	0	165058
		IRL	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	485		485	4275		4275
		PRT	o15m	0	0		0	0		4069	4069		9663	9663		10329	10329	
		UK	o15m	12687	5971	6716	40730	20365	20365	126104	63052	63052	184154	87112	97042	217260	105982	111278
	none	ESP	none	0	0	0	0	0	0	5757117	3667	5753450	4642309	8196	4634113	4484755	1849	4482906
			o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	151747		151747	214786		214786	1027994		1027994	178628		178628	179275		179275
			o15m	900		900	0		0	0		0	4802		4802	0		0
		IRL	o15m	0		0	0		0	0		0	0		0	0		0
	pelagic trawls	DEU	o15m	246685	0	246685	323841	0	323841	207308	0	207308	51022	0	51022	145219	22626	122593
		DNK	o15m	86110		86110	26710		26710	0		0	0		0	0		0
		ESP	none	0	0	0	0	0	0	8621388	0	8621388	15858441	0	15858441	5334468	0	5334468
			o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	138026	0	138026	378217	0	378217	1211975	0	1211975	312462	0	312462	267350	0	267350
			o15m	3267624	3807	3263817	2850008	0	2850008	19033236	116371	18916865	3665043	8225	3656818	1632314	0	1632314
		IRL	o10t15m	0		0	5824		5824	6944		6944	0		0	0		0
			o15m	380775	23400	357375	99474	0	99474	209008	2500	206508	202314	0	202314	196430	0	196430
		NLD	o15m	2650942	328154	2322788	3785203	200158	3585045	2620032	734687	1885345	897725	49974	847751	225437	22284	203153
		UK	o15m	130688	0	130688	68867	0	68867	374704	53394	321310	185116	0	185116	224597	0	224597
	pots	DEU	o15m	0		0	0		0	0		0	24255		24255	37485		37485
		ESP	none	0		0	0		0	347578		347578	473182		473182	684460		684460
		FRA	o10t15m	21273	0	21273	9531	0	9531	60945	0	60945	53430	0	53430	190520	0	190520
			o15m	279991	0	279991	174914	0	174914	579693	0	579693	184899	0	184899	158381	0	158381
		IRL	o10t15m	0		0	0		0	0		0	0		0	0		0
		UK	o15m	0		0	0		0	0		0	0		0	10185		10185
	trammel	ESP	none	0	0	0	0	0	0	235826	0	235826	266138	61	266077	441945	0	441945
			o10t15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	215285	0	215285	267154	0	267154	1328129	0	1328129	527208	0	527208	754404	0	754404
			o15m	300764	2766	297998	481221	2009	479212	2326171	14564	2311607	785415	8593	776822	869285	4268	865017
		UK	o10t15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total				15705531	564300	15141231	21232458	418955	20813503	1.04E+08	2258233	1.01E+08	57878765	627514	57251251	46503330	658097	45845233

2005			2006			2007			2008			2009			2010			2011		
	Deep	Excluding		Deep	Excluding		Deep	Excluding		Deep	Excluding		Deep	Excluding		Deep	Excluding		Deep	Excluding
Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep	Effort	Effort	Deep
836309		836309	0		0	0		0	0		0	0		0	0		0	0		0
35522		35522	4104		4104	438		438	0		0	0		0	981		981	1258		1258
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0	0	0	0	0	0	0	0	0	1760	880	880	0	0	0	0	0	0	0	0	0
0		0	0		0	11850		11850	0		0	78011		78011	0		0	0		0
8875403	59641	8815762	8979987	75924	8904063	8150177	133403	8016774	6268115	84600	6183515	6211119	0	6211119	0	0	0	0	0	0
0	0		0	0		0	0		0	0		285745	285745		0	0		0	0	
5430623	0	5430623	8384886	0	8384886	9143025	456	9142569	6821624	1799	6819825	6774015	1799	6772216	3051127	818	3050309	3023850	158	3023692
14154321	473093	13681228	14998205	424001	14574204	16270807	193593	16077214	15001846	278800	14723046	14914532	275019	14639513	4856234	172920	4683314	5503924	147705	5356219
0		0	33917		33917	6448		6448	1800		1800	2304		2304	0		0	1080		1080
0		0	0		0	0		0	0		0	12776		12776	8936		8936	0		0
2796	0	2796	108595	0	108595	569383	0	569383	599871	1089	598782	287116	0	287116	225946	0	225946	419385	0	419385
0		0	0		0	0		0	0		0	0		0	0		0	0		0
80390	0	80390	104436	0	104436	0	0	0	0	0	0	11807	0	11807	20562	6943	13619	27449	0	27449
0		0	0		0	49		49	0		0	588		588	0		0	0		0
475747	0	475747	598745	0	598745	505681	0	505681	411552	0	411552	400047	0	400047	118023	0	118023	135590	73	135517
1722		1722	0		0	3117		3117	0		0	0		0	5860		5860	8504		8504
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
1450741	20233	1430508	1700522	17137	1683385	1428480	2638	1425842	1812180	3814	1808366	1908846	0	1908846	0	0	0	0	0	0
0	0		0	0		0	0		0	0		216	216		0	0		0	0	
0	0		0	0		0	0		0	0		129503	129503		0	0		0	0	
1519931	5614	1514317	1986433	1758	1984675	1663701	4902	1658799	1159299	3354	1155945	1150303	3354	1146949	422299	264	422035	388045	322	387723
2131626	72668	2058958	2147745	115488	2032257	1811807	116516	1695291	2162857	16915	2145942	2146885	16915	2129970	1908389	27951	1880438	1444782	20922	1423860
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	0		0
0	0	0	6192	3096	3096	0	0	0	4100	2050	2050	10702	5351	5351	4510	2255	2255	0	0	0
213514	67015	146499	647262	275278	371984	181106	57053	124053	186616	56919	129697	102648	24333	78315	188704	48819	139885	121235	18881	102354
308081	60298	247783	232758	48533	184225	326898	61414	265484	379703	63745	315958	452625	0	452625	0	0	0	0	0	0
0	0		0	0		0	0		0	0		2291	2291		0	0		0	0	
0	0		0	0		0	0		0	0		536277	536277		0	0		0	0	
473380	0	473380	746079	1824	744255	653775	407	653368	512089	2029	510060	512089	2029	510060	746532	162	746370	698715	0	698715
139431	1417	138014	184039	850	183189	205807	0	205807	298026	17457	280569	298026	17457	280569	521845	75992	445853	582370	41262	541108
873		873	2473		2473	0		0	0		0	873		873	0		0	0		0
8879		8879	11367		11367	13432		13432	0		0	0		0	0		0	0		0
0	0		0	0		0	0		0	0		0	0		0	0		0	0	
137112	64364	72748	155125	73441	81684	124461	51584	72877	110419	41960	68459	962	0	962	42317	12761	29556	176831	78882	97949
5523708	2778	5520930	4449836	358	4449478	5210295	1544	5208751	3787155	3889	3783266	3032063	0	3032063	0	0	0	0	0	0
0	0		0	0		0	0		0	0		11863	11863		0	0		0	0	
186043		186043	348466		348466	266967		266967	433638		433638	433638		433638	0		0	139157		139157
6517		6517	3297		3297	11699		11699	16177		16177	16177		16177	0		0	9071		9071
25000		25000	0		0	0		0	0		0	0		0	0		0	0		0
298693	0	298693	183966	0	183966	0	0	0	85325	0	85325	47295	0	47295	41237	0	41237	11025	0	11025
0		0	38027		38027	174671		174671	178275		178275	179083		179083	29240		29240	7123		7123
4257594	0	4257594	3791866	0	3791866	4067360	0	4067360	3667549	2273	3665276	6461572	0	6461572	0	0	0	0	0	0
0	0		0	0		0	0		0	0		5406	5406		0	0		0	0	
569222	0	569222	746908	0	746908	753222	0	753222	311515	0	311515	304711	0	304711	666908	442	666466	511346	0	511346
4038307	7442	4030865	5420108	10239	5409869	3935877	6521	3929356	1576063	0	1576063	1522637	0	1522637	1862900	13177	1849723	1646915	882	1646033
0		0	0		0	0		0	0		0	0		0	0		0	0		0
195308	0	195308	137196	0	137196	100377	0	100377	22418	0	22418	21871	0	21871	52668	0	52668	11100	0	11100
563205	26400	536805	507912	35596	472316	106118	0	106118	403896	0	403896	189568	0	189568	167966	67980	99986	23760	0	23760
166621	0	166621	92445	0	92445	36288	0	36288	167200	0	167200	251616	0	251616	74969	13886	61083	30569	0	30569
2646		2646	29507		29507	45482		45482	33957		33957	6174		6174	7272		7272	8009		8009
539499		539499	463663		463663	585731		585731	497069		497069	410088		410088	0		0	0		0
57703	0	57703	75783	0	75783	64399	0	64399	10741	0	10741	10741	0	10741	391934	412	391522	375268	0	375268
129392	1596	127796	145664	0	145664	103419	0	103419	14170	0	14170	14170	0	14170	342212	2052	340160	262772	0	262772
0		0	0		0	0		0	0		0	0		0	0		0	90		90
0		0	0		0	0		0	9856		9856	0		0	0		0	0		0
654742	0	654742	527394	85	527309	536270	228	536042	641315	66	641249	647739	0	647739	0	0	0	0	0	0
0	0		0	0		0	0		0	0		44	44		0	0		0	0	
1495392	948	1494444	2793823	0	2793823	2914695	774	2913921	2552035	0	2552035	2552035	0	2552035	434806	516	434290	361314	0	361314
2126451	10200	2116251	2256944	9300	2247644	2397501	6900	2390601	2367920	9760	2358160	2365790	9760	2356030	146194	2284	143910	146509	11102	135407
0	0	0	0	0	0	0	0	0	1094	547	547	0	0	0	0	0	0	0	0	0
57112444	873707	56238737	63045675	1092908	61952767	62380813	637933	61742880	52509225	591946	51917279	54714587	1327362	53387225	16340571	449634	15890937	16077046	320189	15756857



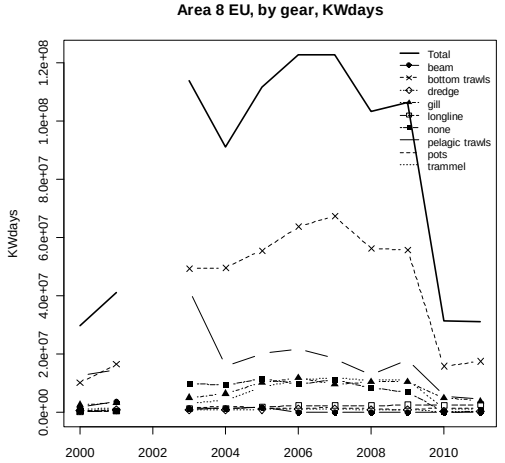


Figure 5.9.1.10.2.- Effort (kW*days) reported within ICES Sub-area VIII EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort. Due to uncertainty in French 2002 data this year has been removed from the figures.

Deepwater VIII non-EU

Fishing effort in Area VIII non EU was minimal. The UK has some historical effort for gill nets and pots, and France conducted a small amount of bottom trawl in 2011.

Table 5.9.1.10.4.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area VIII non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 non EU	FRA												497
	UK							34994		5376			
8 non EU Total								34994		5376			497

Table 5.9.1.10.5.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area VIII non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 non EU	BOTTOM TRAWLS	FRA												497
	GILL	UK							34994					
	POTS	UK									5376			
8 non EU Total									34994		5376			497

Western Waters VIII non-EU

Minimal effort occurs sporadically within this area, Table 5.9.1.10.6.

Table 5.9.1.10.6.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area VIII non-EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
8 non EU	bottom trawls	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		PRT	o15m	0		0	0		0	0		0	0		0	0		0
	gill	FRA	o15m	0		0	0		0	0		0	0		0	0		0
		UK	o15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	longline	FRA	o15m	0		0	0		0	0		0	0		0	0		0
		UK	o15m	0		0	0		0	0		0	0		0	0		0
	pelagic trawls	FRA	o15m	0		0	0		0	0		0	0		0	0		0
	pots	UK	o15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	trammel	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
Total				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0		0	0		0	0		0	0		0	0		0	2804		2804	294		294
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6618	497	6121
0		0	23762		23762	0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	0		0	0		0	0		0	3825		3825
0	0	0	69988	34994	34994	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0		0	0		0	0		0	0		0	0		0	30301		30301	14876		14876
0		0	0		0	0		0	0		0	0		0	73754		73754	66928		66928
0		0	0		0	0		0	0		0	0		0	52118		52118	71356		71356
0	0	0	0	0	0	0	0	0	10752	5376	5376	0	0	0	0	0	0	0	0	0
0		0	0		0	0		0	0		0	0		0	573		573	158		158
0	0	0	93750	34994	58756	0	0	0	10752	5376	5376	0	0	0	159550	0	159550	164055	497	163558

5.9.1.11 Fishing effort in ICES area IX

Deepwater IX EU

Most of the effort in area IX was contributed by Portugal as shown in Tables 5.9.1.11.1 and 5.9.1.11.2, however Spain did not provide data in 2010 or 2011. Small amounts of effort were recorded by France and UK. Prior to 2003 recorded effort was quite low and the highest values occur recently.

Portuguese longline effort is the most important in the area and that this gear is responsible for the overall trend.

Table 5.9.1.11.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area IX EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 EU	ESP			145453	161165	94341	98119	136223	280696	148213	100673		
	FRA									1472	1472		588
	PRT	40929	28032	15563	323445	254615	465091	820109	964352	859628	787838	628818	601916
	UK							138797	11906				
9 EU Total		40929	28032	161016	484610	348956	563210	1095129	1256954	1009313	889983	628818	602504

Table 5.9.1.11.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area IX EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 EU	BOTTOM TRAWLS	ESP			141910	159002	88954	84697	117280	266955	135644	88673		
		FRA												588
		PRT	9210		6122	6182	37237	63980	90887	133980	85031	103658	37393	30150
	DREDGE	PRT						89	74				89	
	GILL	ESP			1933	351			159	210	1372			
		FRA									1472	1472		
		PRT	1477	5141	1859	3712		2956	4340	16061	12332	7604	2453	1760
		UK							130733	11906				
	LONGLINE	ESP			986		1264	6112	14148	13531	10249	12000		
		PRT	27976	22191	7582	309598	213345	393156	710169	787845	734259	667917	580377	567197
		UK							4928					
	none	ESP			562	1812	4123	7310	4612		948			
	PELAGIC TRAWLS	PRT				201		71	60		142	137		66
	POTS	ESP			62									
		PRT		428			1865	354	1541	1331	3296	395	100	153
		UK							3136					
	TRAMMEL	ESP							24					
		PRT	2266	272		3752	2168	4485	13038	25135	24568	8127	8406	2590
9 EU Total			40929	28032	161016	484610	348956	563210	1095129	1256954	1009313	889983	628818	602504

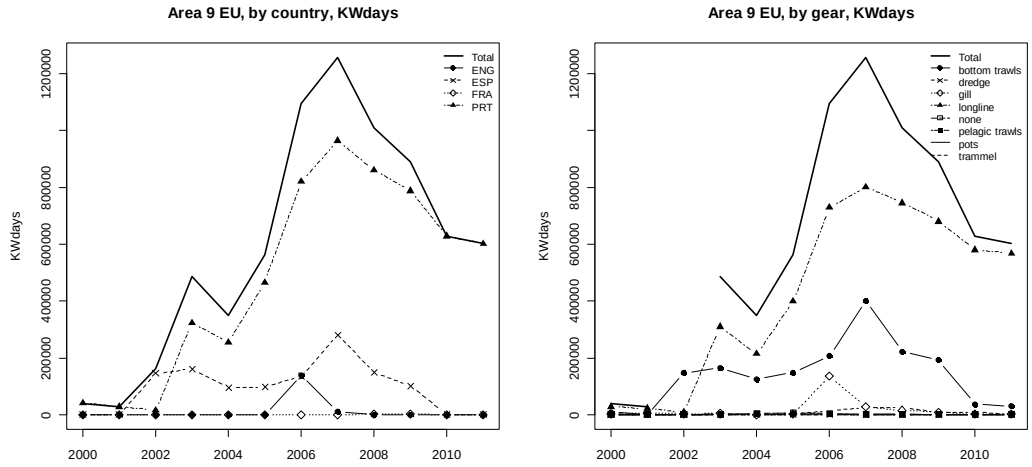


Figure 5.9.1.11.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area IX EU. Due to the uncertainty in French 2002 data this year has been removed from the figure.

Western Waters **IX EU**

Two nations are active in this area, Portugal and Spain, although minor contributions from other nations do occur (Table 5.9.1.11.3 and Figure 5.9.1.11.2). Spanish data was only provided in the period 2002 to 2009. Since Spain operates extensively in this area, overall trends should not be considered outside this period.

Overall effort increased around 2006-2008, levelling off in most recent years. Comparatively little effort is directed toward deepwater fisheries, apart from Portuguese longlines. Spanish deepwater effort was only provided in this area for 2009, given the low effort assigned to deepwater fisheries in 2009, this may not have been significant over the period.

The main fishing activity is bottom trawling, and while this is carried out by both nations, Portuguese effort is much higher. Over the period Portuguese effort increased until 2007, but has been declining slowly since. In 2008 and 2009 it made up 80% of the bottom trawl effort. Spanish effort levels have remained relatively stable in recent years, up to 2009.

Spanish pelagic trawls were the next most important, in terms of effort, up to 2009. Low effort levels of trammel net, gillnet, and pots occur, are carried out, particularly by Portugal and increases have been seen in these in recent years.

Table 5.9.1.11.3.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area IX EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
9 EU	beam	ESP	none	0		0	0		0	10822		10822	11804		11804	25121		25121
	bottom trawls	ESP	none	0	0	0	0	0	0	2463017	141910	2321107	2545399	159002	2386397	3183855	88954	3094901
			o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		IRL	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	4208		4208	0		0
		PRT	o10t15m	5816		5816	0		0	0		0	0		0	0		0
			o15m	3671403	9210	3662193	1753234	0	1753234	1669264	6122	1663142	5058796	6182	5052614	5108844	37237	5071607
	dredge	ESP	none	0		0	0		0	8622		8622	10357		10357	23443		23443
		PRT	o10t15m	0	0		0	0		0	0		0	0		0	0	
	gill	ESP	none	0	0	0	0	0	0	238657	1933	236724	188170	351	187819	249307	0	249307
		FRA	o15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		PRT	o10t15m	193	0	193	0	0	0	3420	0	3420	16800	143	16657	0	0	0
			o15m	152787	1477	151310	98249	5141	93108	160557	1859	158698	75553	3569	71984	32273	0	32273
		UK	o15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	longline	ESP	none	0	0	0	0	0	0	87457	986	86471	65676	0	65676	100727	1264	99463
			o10t15m	0	0		0	0		0	0		0	0		0	0	
			o15m	0	0		0	0		0	0		0	0		0	0	
		FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
		PRT	o10t15m	0	0	0	0	0	0	0	0	0	859	0	859	0	0	0
			o15m	27976	27976	0	37649	22191	15458	7582	7582	0	384712	309598	75114	290459	213345	77114
		UK	o15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	none	ESP	none	0	0	0	0	0	0	375413	562	374851	254629	1812	252817	331306	4123	327183
	pelagic trawls	ESP	none	0		0	0		0	1570656		1570656	1998361		1998361	3483303		3483303
		PRT	o10t15m	0	0		0	0		0	0		201	201		0	0	
			o15m	0	0		0	0		0	0		0	0		0	0	
	pots	DEU	o15m	0		0	0		0	0		0	0		0	0		0
		ESP	none	0	0	0	0	0	0	788749	62	788687	856098	0	856098	1168353	0	1168353
		PRT	o10t15m	0	0	0	0	0	0	0	0	0	3119	0	3119	518	0	518
			o15m	0	0	0	428	428	0	0	0	0	8607	0	8607	6749	1865	4884
		UK	o15m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	trammel	ESP	none	0	0	0	0	0	0	227231	0	227231	174174	0	174174	298351	0	298351
		PRT	o10t15m	2016	0	2016	438	0	438	980	0	980	36858	60	36798	623	0	623
			o15m	75161	2266	72895	79656	272	79384	88515	0	88515	41623	3692	37931	46399	2168	44231
Total				3935352	40929	3894423	1969654	28032	1941622	7700942	161016	7539926	11736004	484610	11251394	14349631	348956	14000675

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
25154		25154	25077		25077	28021		28021	18232		18232	16275		16275	0		0	0		0
2453455	84697	2368758	2832502	117280	2715222	2446598	266955	2179643	2083974	135644	1948330	1881415	0	1881415	0	0	0	0	0	0
0	0		0	0		0	0		0	0		88673	88673		0	0		0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1176	588	588
0		0	0		0	0		0	0		0	0		0	82		82	0		0
0		0	0		0	0		0	746		746	0		0	0		0	0		0
0		0	0		0	89		89	0		0	0		0	0		0	0		0
4486879	63980	4422899	6120154	90887	6029267	8513471	133980	8379491	7786144	85031	7701113	7196860	103658	7093202	6304829	37393	6267436	5607682	30150	5577532
24996		24996	26099		26099	30039		30039	33876		33876	58241		58241	0		0	0		0
89	89		74	74		0	0		0	0		0	0		89	89		0	0	
328203	0	328203	287333	159	287174	334399	210	334189	372723	1372	371351	598712	0	598712	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1472	1472	0	1472	1472	0	0	0	0	736	0	736
25955	317	25638	47561	269	47292	108830	337	108493	113399	901	112498	97350	89	97261	82667	1056	81611	59333	197	59136
121841	2639	119202	188248	4071	184177	734667	15724	718943	788939	11431	777508	676042	7515	668527	601419	1397	600022	227493	1563	225930
0	0	0	261466	130733	130733	23812	11906	11906	0	0	0	0	0	0	0	0	0	0	0	0
303600	6112	297488	660471	14148	646323	270409	13531	256878	215904	10249	205655	275977	0	275977	0	0	0	0	0	0
0	0		0	0		0	0		0	0		675	675		0	0		0	0	
0	0		0	0		0	0		0	0		11325	11325		0	0		0	0	
0		0	0		0	0		0	0		0	0		0	0		0	684		684
53479	16086	37393	92241	39265	52976	103628	52013	51615	101785	45702	56083	97400	54347	43053	69290	17713	51577	67193	37019	30174
396392	377070	19322	718053	670904	47149	854664	735832	118832	811539	688557	122982	707067	613570	93497	640797	562664	78133	614653	530178	84475
0	0	0	9856	4928	4928	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
333350	7310	326040	313638	4612	309026	315969	0	315969	381752	948	380804	563673	0	563673	0	0	0	0	0	0
3067963		3067963	2802865		2802865	2872281		2872281	3041047		3041047	3346249		3346249	0		0	0		0
71	71		60	60		0	0		142	142		0	0		0	0		66	66	
0	0		0	0		0	0		0	0		137	137		0	0		0	0	
0		0	0		0	7272		7272	0		0	0		0	14544		14544	14948		14948
667483	0	667483	632260	0	632260	718759	0	718759	873801	0	873801	927395	0	927395	0	0	0	0	0	0
73475	0	73475	122048	835	121213	178813	497	178316	250773	139	250634	216700	267	216433	231622	100	231522	234920	153	234767
5717	354	5363	40624	706	39918	117470	834	116636	191908	3157	188751	178846	128	178718	138035	0	138035	174534	0	174534
0	0	0	6272	3136	3136	26201	0	26201	0	0	0	0	0	0	0	0	0	0	0	0
314811	0	314811	275282	24	275258	276624	0	276624	352813	0	352813	359209	0	359209	0	0	0	0	0	0
66978	1055	65923	136637	910	135727	344033	3545	340488	388794	2648	386146	397577	535	397042	475033	156	474877	444680	0	444680
193270	3430	189840	401925	12128	389797	945474	21590	923884	665574	21920	643654	874563	7592	866971	970950	8250	962700	988145	2590	985555
12943161	563210	12379951	16000746	1095129	14905617	19251523	1256954	17994569	18475337	1009313	17466024	18571833	889983	17681850	9529357	628818	8900539	8436243	602504	7833739

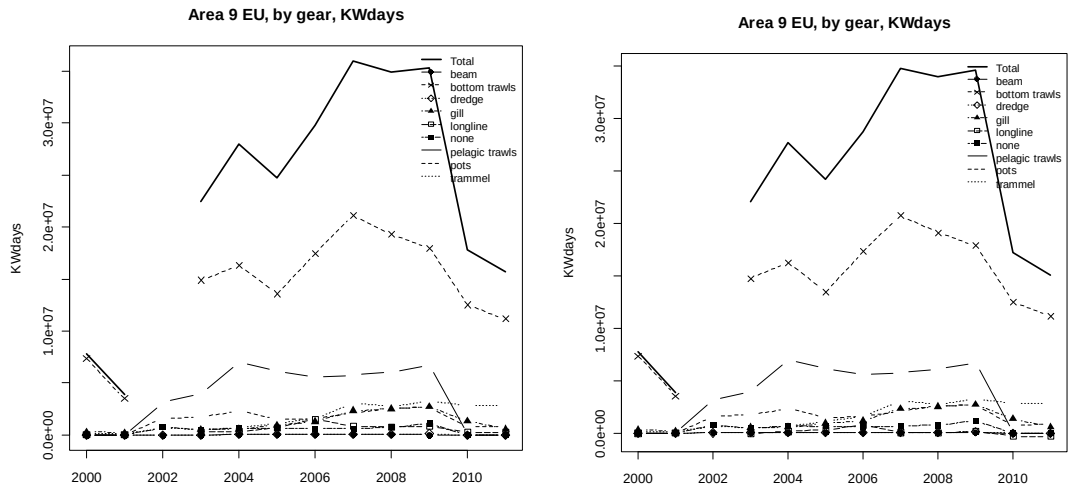


Figure 5.9.1.11.2.- Effort (kW*days) reported within ICES Sub-area IX EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort. Due to uncertainty in French 2002 data this year has been removed from the figures.

Deepwater IX non-EU

In Area IX non-EU effort peaked between 2003 and 2005 but has declined greatly since. All the effort is Portuguese. Since 2005 it has been solely longline.

Table 5.9.1.11.4.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area IX non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 non EU	PRT	39812	63800	40008	163067	63968	163069	3356	13187	43272	11581	3401	5217
9 non EU Total		39812	63800	40008	163067	63968	163069	3356	13187	43272	11581	3401	5217

Table 5.9.1.11.4.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area IX non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 non EU	GILL	PRT	7832	4718	9565	229		1968						
	LONGLINE	PRT	31559	59082	30155	162301	63968	159709	3356	13187	43272	11581	3401	5217
	PELAGIC TRAWLS	PRT						1250						
	TRAMMEL	PRT	421		288	537		142						
9 non EU Total			39812	63800	40008	163067	63968	163069	3356	13187	43272	11581	3401	5217

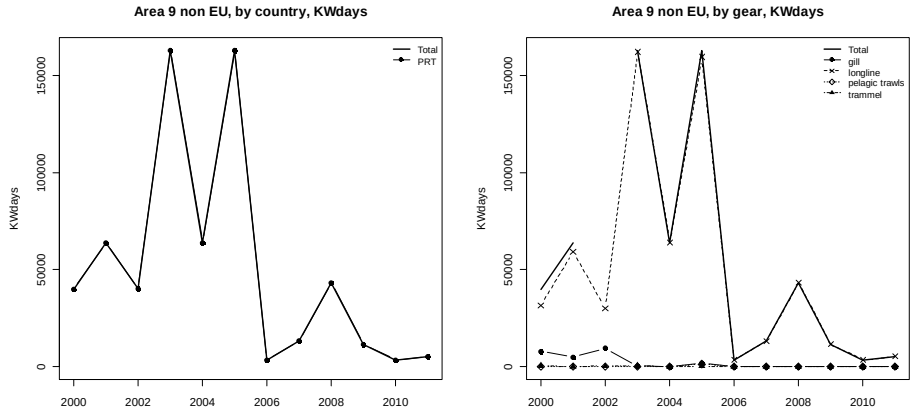


Figure 5.9.1.11.3. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area IX non-EU. Due to the uncertainty in French 2002 data this year has been removed from the figure.

Western Waters IX non-EU

Little effort is associated with this area. Prior to 2006 a variety of gears were used, all at low levels, all of which by Portugal (Table 5.9.1.11.6. and Figure 5.9.1.11.4.). Since 2006, effort declined and was focused in longlines. Some of the longline effort is associated with deepwater fisheries.

Table 5.9.1.11.6.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area IX non-EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
9 non EU	bottom trawls	PRT	o15m	98235		98235	116517		116517	169518		169518	224597		224597	27180		27180
	gill	PRT	o10t15m	0	0	0	0	0	0	0	0	0	46533	229	46304	0	0	0
			o15m	138109	7832	130277	218500	4718	213782	211073	9565	201508	69055	0	69055	805	0	805
	longline	PRT	o10t15m	0	0	0	0	0	0	0	0	0	30979	11250	19729	0	0	0
			o15m	81028	31559	49469	158075	59082	98993	75844	30155	45689	348159	151051	197108	99756	63968	35788
	pelagic trawls	PRT	o15m	0	0		0	0		0	0		0	0		0	0	
	pots	PRT	o10t15m	0		0	0		0	0		0	642		642	0		0
			o15m	0		0	0		0	0		0	0		0	0		0
	trammel	PRT	o10t15m	339		339	0		0	680		680	9396		9396	0		0
			o15m	16616	421	16195	19851	0	19851	23128	288	22840	39495	537	38958	0	0	0
Total				334327	39812	294515	512943	63800	449143	480243	40008	440235	768856	163067	605789	127741	63968	63773

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
72890		72890	0		0	0		0	0		0	0		0	0		0	0		0
2471	0	2471	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34603	1968	32635	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36253	11850	24403	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315018	147859	167159	6070	3356	2714	17252	13187	4065	77932	43272	34660	54886	11581	43305	11421	3401	8020	18029	5217	12812
1250	1250		0	0		0	0		0	0		0	0		0	0		0	0	
2961		2961	0		0	0		0	0		0	0		0	0		0	0		0
590		590	0		0	0		0	0		0	0		0	0		0	0		0
9438		9438	0		0	0		0	0		0	0		0	0		0	0		0
15456	142	15314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490930	163069	327861	6070	3356	2714	17252	13187	4065	77932	43272	34660	54886	11581	43305	11421	3401	8020	18029	5217	12812

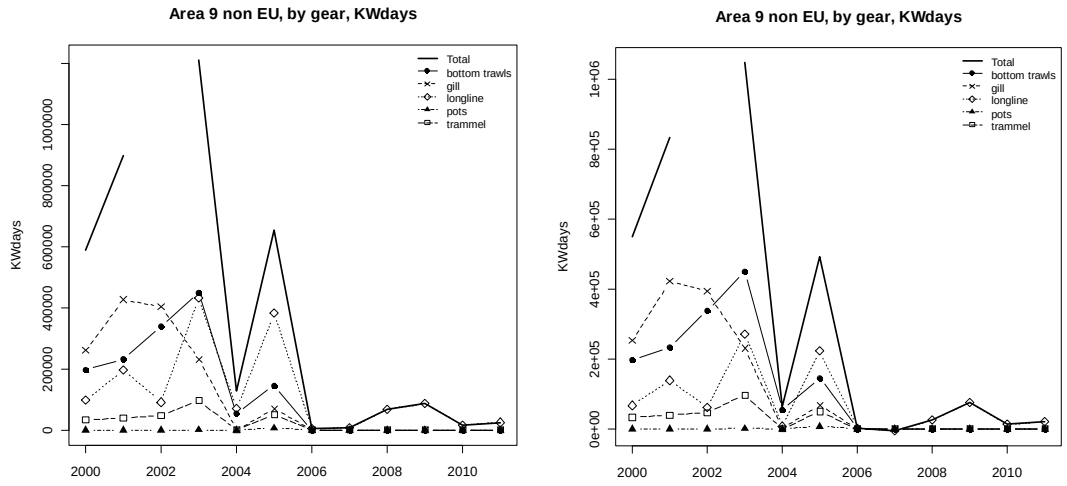


Figure 5.9.1.11.4.- Effort (kW*days) reported within ICES Sub-area IX non-EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort. Due to uncertainty in French 2002 data this year has been removed from the figures.

5.9.1.12 Fishing effort in ICES area X

Deepwater X EU

Recordings of effort in ICES X are very small and more sporadic than other areas. There has been no effort recorded in Area X EU since 2006.

Table 5.9.1.12.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area X EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
10 EU	PRT				7517			15006					
	UK	12218											
10 EU Total		12218			7517			15006					

Table 5.9.1.12.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area X EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
10 EU	BOTTOM TRAWLS	UK	12218											
	LONGLINE	PRT				7517			15006					
10 EU Total			12218			7517			15006					

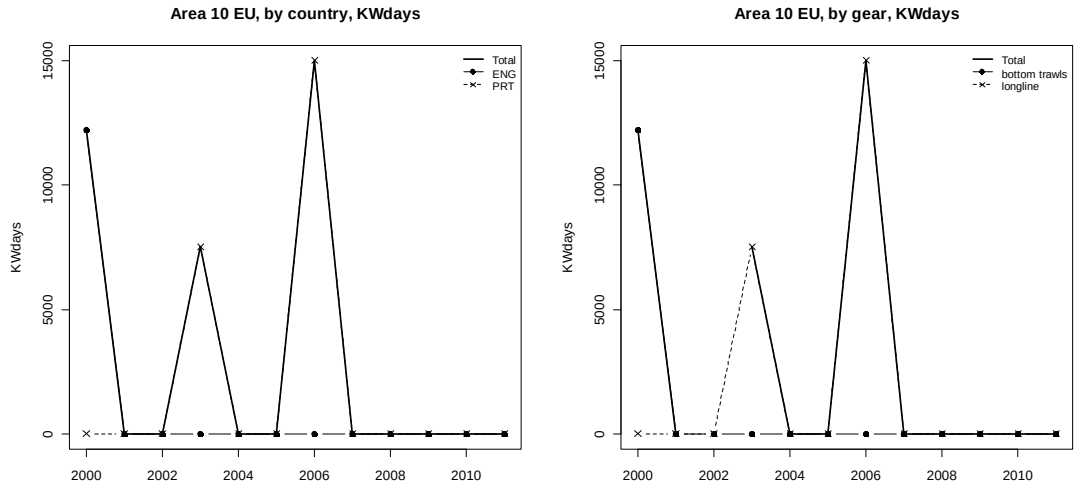


Figure 5.9.1.12.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area X EU.

Western Waters X EU

Little effort is carried out within this area. The effort that does occur is with longlines by Portugal (Table 5.9.1.12.3 and Figure 5.9.1.12.2). Prior to 2006 this effort was regularly associated with deepwater fisheries. Since 2007 effort is sporadic and is confined to Portuguese longlines.

Table 5.9.1.12.3.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area X EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
10 EU	bottom trawls	PRT	o15m	0		0	0		0	0		0	0		0	0		0
		UK	o15m	24436	12218	12218	0	0	0	0	0	0	0	0	0	0	0	0
	longline	PRT	o15m	0	0	0	0	0	0	0	0	0	15034	7517	7517	3550	0	3550
	trammel	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
Total				24436	12218	12218	0	0	0	0	0	0	15034	7517	7517	3550	0	3550

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0		0	0		0	750		750	0		0	0		0	0		0	0		0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4201	0	4201	15006	15006	0	0	0	0	0	0	0	12112	0	12112	0	0	0	21182	0	21182
0		0	0		0	0		0	0		0	0		0	0		0	184		184
4201	0	4201	15006	15006	0	750	0	750	0	0	0	12112	0	12112	0	0	0	21366	0	21366

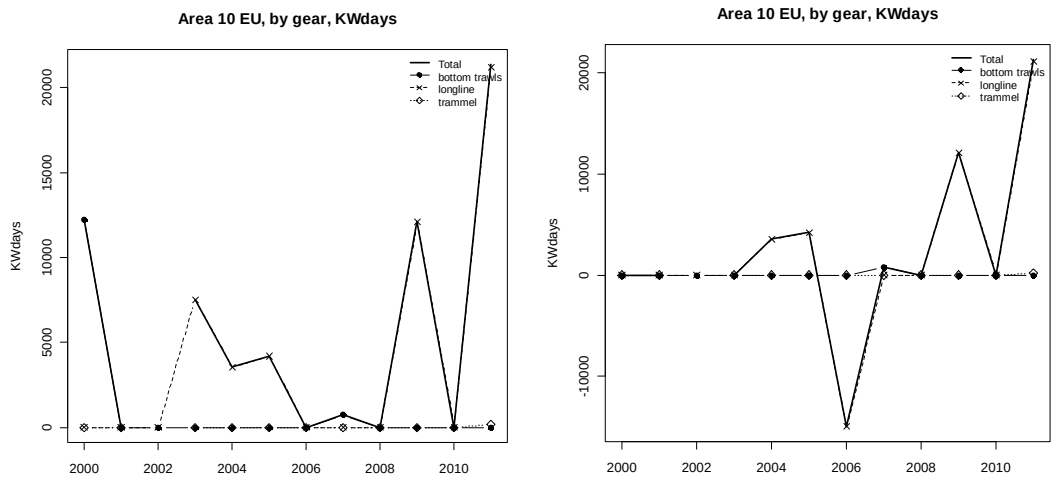


Figure 5.9.1.12.2.- Effort (kW*days) reported within ICES Sub-area X EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort.

Deepwater X non-EU

Most of the effort in the non EU part of X is Portuguese longline, while Ireland and the UK record some effort from otter trawls (Table 5.9.1.12.4 and 5.9.1.12.5 and Figure 5.9.1.12.3).

Table 5.9.1.12.4.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area X non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
10 non EU	IRL					31378	8656						
	PRT		9929	6987	9188	26101	229555	8931	20388		2478		
	UK	18327											
10 non EU Total		18327	9929	6987	9188	57479	238211	8931	20388		2478		

Table 5.9.1.12.5.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area X non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
10 non EU	BOTTOM TRAWLS	IRL					31378	8656						
		UK	18327											
	LONGLINE	PRT		9929	6987	9188	26101	25533	8931	20388		2478		
	PELAGIC TRAWLS	PRT						204022						
10 non EU Total			18327	9929	6987	9188	57479	238211	8931	20388		2478		

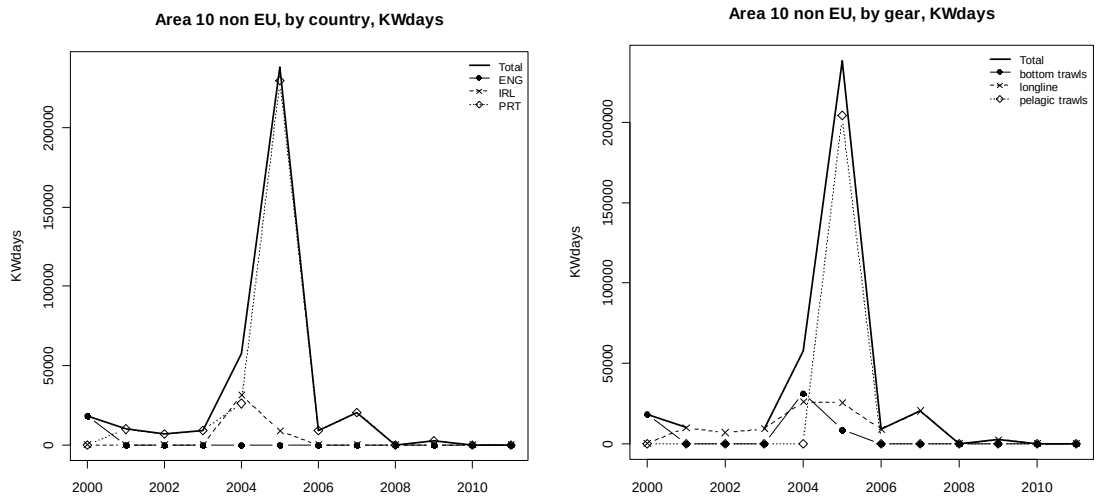


Figure 5.9.1.12.3. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area X non-EU.

Western Waters X non-EU

Little effort is carried out within Area X non EU. Effort which does occur is primarily with longlines by Portugal, associated with deepwater fisheries (Table 5.9.1.12.6. and Figure 5.9.1.12.4.). Occurrence of other gears or nations is more sporadic and tending to relate to deepwater fisheries, including small amounts of bottom trawling in 2004/2005 by Ireland. In 2010 and 2011 France recorded effort in all gear types.

Table 5.9.1.12.6.- Effort (kW*days) by country, gear and vessel size group within ICES Sub-area X non-EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
10 non EU	bottom trawls	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	0		0	0		0
		IRL	o15m	0	0	0	0	0	0	0	0	0	0	0	0	62756	31378	31378
		UK	o15m	36654	18327	18327	0	0	0	0	0	0	0	0	0	0	0	0
	gill	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	0		0	0		0
	longline	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	0		0	0		0
		PRT	o15m	13046	0	13046	40353	9929	30424	15426	6987	8439	25996	9188	16808	55960	26101	29859
	pelagic trawls	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	0		0	0		0
		PRT	o15m	0	0		0	0		0	0		0	0		0	0	
	pots	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
		PRT	o15m	0		0	0		0	0		0	0		0	0		0
	trammel	FRA	o10t15m	0		0	0		0	0		0	0		0	0		0
			o15m	0		0	0		0	0		0	0		0	0		0
		PRT	o15m	0		0	6894		6894	0		0	0		0	0		0
Total				49700	18327	31373	47247	9929	37318	15426	6987	8439	25996	9188	16808	118716	57479	61237

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0		0	0		0	0		0	0		0	0		0	1059		1059	2594		2594
0		0	0		0	0		0	0		0	0		0	1964		1964	810		810
17312	8656	8656	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0		0	0		0	0		0	0		0	0		0	111		111	765		765
0		0	0		0	0		0	0		0	0		0	0		0	660		660
0		0	0		0	0		0	0		0	0		0	5698		5698	133		133
0		0	0		0	0		0	0		0	0		0	0		0	4464		4464
64881	25533	39348	17862	8931	8931	20388	20388	0	1792	0	1792	15264	2478	12786	0	0	0	0	0	0
0		0	0		0	0		0	0		0	0		0	1575		1575	0		0
0		0	0		0	0		0	0		0	0		0	2106		2106	1986		1986
204022	204022		0	0		0	0		0	0		0	0		0	0		0	0	
0		0	0		0	0		0	0		0	0		0	0		0	73		73
0		0	0		0	0		0	9929		9929	2478		2478	0		0	0		0
0		0	0		0	0		0	0		0	0		0	1483		1483	4676		4676
0		0	0		0	0		0	0		0	0		0	323		323	1221		1221
0		0	0		0	0		0	0		0	0		0	0		0	0		0
286215	238211	48004	17862	8931	8931	20388	20388	0	11721	0	11721	17742	2478	15264	14319	0	14319	17382	0	17382

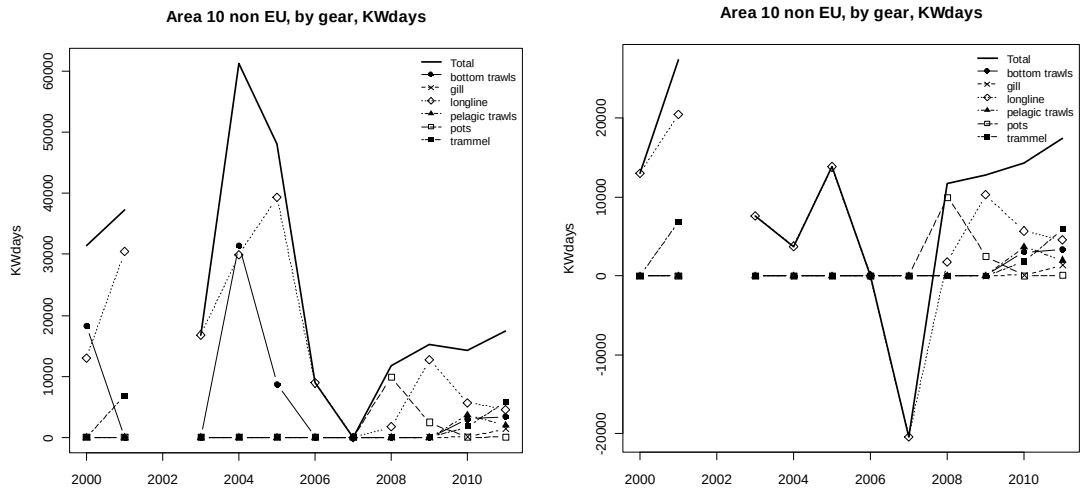


Figure 5.9.1.12.4.- Effort (kW*days) reported within ICES Sub-area X non-EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort. Due to uncertainty in French 2002 data this year has been removed from the figures.

5.9.1.13 Fishing effort in ICES area XII by fisheries and Member States only linked to Deep Sea species

Overall effort from ICES XII is shown in Table 5.9.1.13.1. The UK recorded most effort throughout the series (mainly using otter trawl and gill net – Table 5.9.1.13.2 and Figure 5.9.1.13.1) although this has dropped ceased from 2006 onwards. Other countries contributing effort included Germany, Netherlands, Estonia and Ireland. Spain provided effort for 2009 only indicating major bottom trawl effort, followed by pelagic trawls and other unspecified gears. In 2010 and 2011 only France has provided effort, from bottom trawls.

Table 5.9.1.13.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area XII non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
12 non EU	DEU				21000	22932	9708						
	ESP										2361476		
	EST						2712	28024	35328				
	FRA											5141	5530
	IRL				29509								
	NLD					14420	22944						
	PRT					63180							
	UK	60837	115481	116025	102568	49670	113809	2356	4480	9359			
12 non EU Total		60837	115481	116025	153077	150202	149173	30380	39808	9359	2361476	5141	5530

Table 5.9.1.13.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area XII non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
12 non EU	BOTTOM TRAWLS	ESP										1896092		
		EST						2712	28024	35328				
		FRA											5141	5530
		IRL				28159								
		UK	54686	79013	49648	12768	3310	9255						
	GILL	UK	6151	28073	64420	87514	46360	104554	2356					
	LONGLINE	IRL				1350								
		PRT					63180							
		UK		8395	1957									
	none	ESP										241944		
	PELAGIC TRAWLS	DEU				21000	22932	9708						
		ESP										223440		
		NLD					14420	22944						
	POTS	UK				2286				4480	9359			
12 non EU Total			60837	115481	116025	153077	150202	149173	30380	39808	9359	2361476	5141	5530

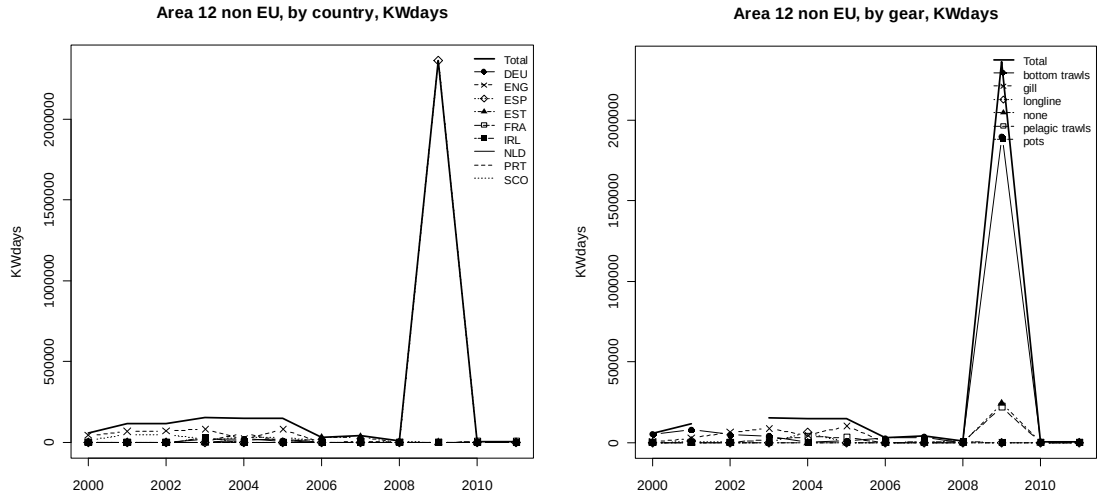


Figure 5.9.1.13.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area XII non-EU.

5.9.1.14 Fishing effort in ICES area XIV by fisheries and Member States only linked to Deep Sea species

Effort in ICES Area XIV, shown in Tables 5.9.1.14.1 and 5.9.1.14.2 and Figure 5.9.1.14.1, is mainly expended outside EU waters by Germany and the UK using otter trawls. UK effort peaked in 2004 but has

since declined while German effort rose in the mid 2000s and remains at a relatively high level. 2011 showed a major increase in German effort. Spain reported otter trawl effort for 2009. German pelagic trawling stopped in 2005.

Table 5.9.1.14.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state ICES Sub-area XIV non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
14 non EU	DEU				1067316	1975374	1349730	1248640	1427857	1719689	1960922	1694549	2419111
	ESP										194085		
	PRT						35100						
	UK	289234	128310	179731	801239	609192	261337		143075	96501	250077	186300	189933
14 non EU Total		289234	128310	179731	1868555	2584566	1646167	1248640	1570932	1816190	2405084	1880849	2609044

Table 5.9.1.14.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state ICES Sub-area XIV non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
14 non EU	BOTTOM TRAWLS	DEU				1016316	1963026	1232628	1248640	1427857	1719689	1960922	1694549	2313211
		ESP										194085		
		UK	289234	128310	179731	801239	609192	261337		143075	96501	250077	186300	189933
	LONGLINE	PRT						35100						
	PELAGIC TRAWLS	DEU				51000	12348	117102						105900
14 non EU Total			289234	128310	179731	1868555	2584566	1646167	1248640	1570932	1816190	2405084	1880849	2609044

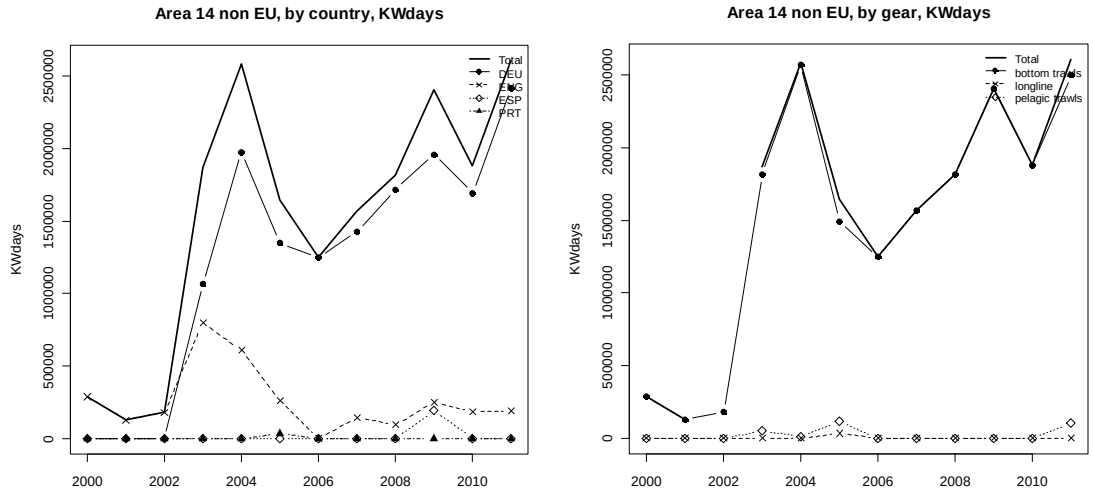


Figure 5.9.1.14.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in ICES Sub-area XIV non-EU.

5.9.1.15 Fishing effort in CECAF area 34.1.1

Deepwater 34.1.1 EU

A small amount of effort in CECAF 34.1.1 was recorded by Portugal (Tables 5.9.1.15.1 and 5.9.1.15.2 and Figure 5.9.1.15.1). Most of the effort in 2006 was in the EU part of the region although in the last few years more was recorded from other parts.

Table 5.9.1.15.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state CECAF area 34.1.1 EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.1 EU	PRT				2349	2327	9304	28137	9160	25508	26448	11077	
34.1.1 EU Total					2349	2327	9304	28137	9160	25508	26448	11077	

Table 5.9.1.15.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state CECAF area 34.1.1 EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.1 EU	LONGLINE	PRT				2349		9304	28137	9160	25508	26448	11077	
	TRAMMEL	PRT					2327							
34.1.1 EU Total						2349	2327	9304	28137	9160	25508	26448	11077	

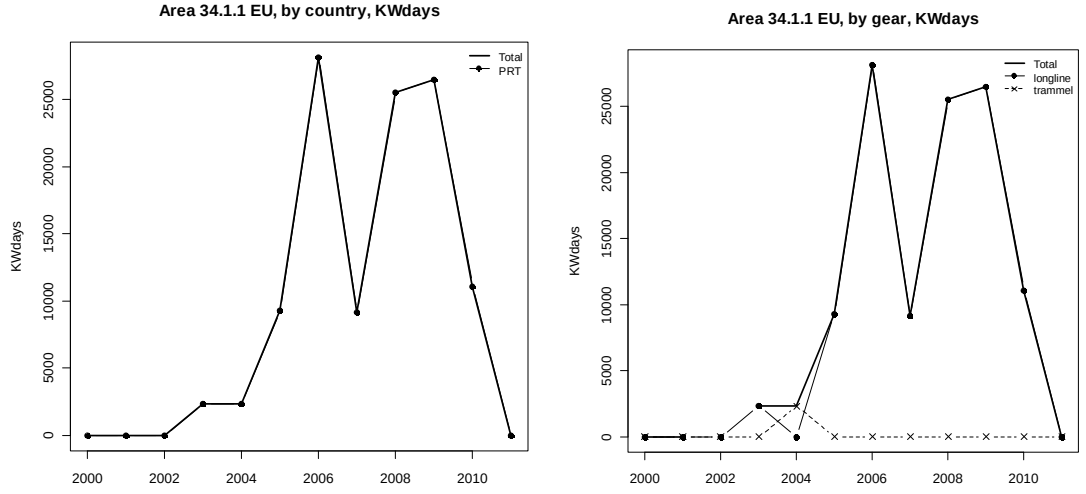


Figure 5.9.1.15.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in CECAF area 34.1.1 EU.

Western Waters 34.1.1 EU

Effort is low within this area. Portugal is the sole nation with effort reported in this area and is associated with longlining (Table 5.9.1.15.3 and Figure 5.9.1.15.2). Much of this effort is used to target deepwater fisheries. In 2008 and 2009 greater effort became directed to other fisheries, and deepwater effort was further reduced in 2010 and 2011. A single year of Portuguese bottom trawling created an effort peak in 2007.

Table 5.9.1.15.3.- Effort (kW*days) by country, gear and vessel size group within CECAF area 34.1.1 EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
34.1.1 EU	bottom trawls	PRT	o15m	0		0	0		0	0		0	0		0	0		0
	longline	PRT	o10t15m	0		0	0	0	0	0	0	0	0	0	0	0	0	0
			o15m	0		0	4092	0	4092	0	0	0	9387	2349	7038	7502	0	7502
	trammel	PRT	o15m	0	0		0	0		0	0		0	0		2327	2327	
Total				0	0	0	4092	0	4092	0	0	0	9387	2349	7038	9829	2327	7502

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0		0	0		0	307168		307168	0		0	0		0	0		0	0		0
0	0	0	0	0	0	412	0	412	0	0	0	6132	0	6132	19164	3258	15906	3641	0	3641
14315	9304	5011	39089	28137	10952	22516	9160	13356	82948	25508	57440	88771	26448	62323	46089	7819	38270	47337	0	47337
0	0		0	0		0	0		0	0		0	0		0	0		0	0	
14315	9304	5011	39089	28137	10952	330096	9160	320936	82948	25508	57440	94903	26448	68455	65253	11077	54176	50978	0	50978

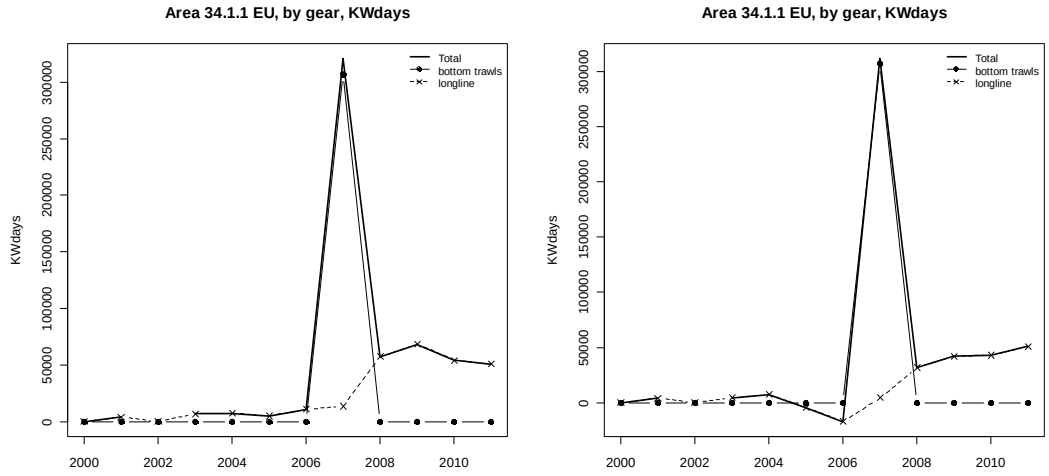


Figure 5.9.1.15.2.- Effort (kW*days) reported within CECAF area 34.1.1 EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort.

5.9.1.16 Fishing effort in CECAF area 34.1.2

Deepwater 34.1.2.EU

Up to 2011 all effort in CECAF 34.1.2 was in EU waters and recorded by Portugal, however no data was submitted to the group by Spain, Tables 5.9.1.16.1 and 5.9.1.16.2. Prior to 2010 there had been an increasing trend in effort in the EU area, but this has dropped since. In 2010 Portugal recorded a large amount of effort in the non EU waters of the area. Effort is all by longline.

Table 5.9.1.16.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state CECAF area 34.1.2 EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.2 EU	PRT					8771	12191	6808	14909	19293	24163	11727	15660
34.1.2 EU Total						8771	12191	6808	14909	19293	24163	11727	15660

Table 5.9.1.16.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state CECAF area 34.1.2 EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.2 EU	LONGLINE	PRT					8771	12191	6808	14909	19293	24163	11727	15660
34.1.2 EU Total							8771	12191	6808	14909	19293	24163	11727	15660

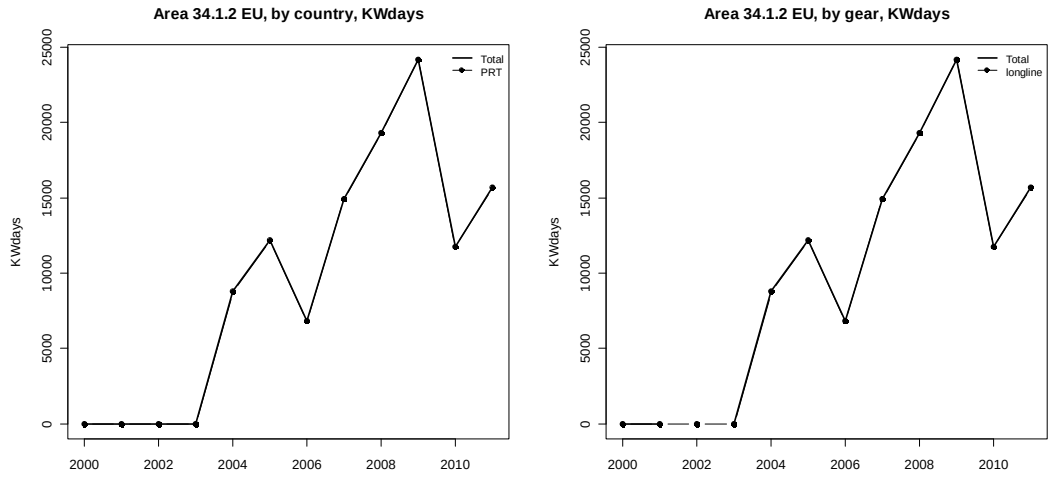


Figure 5.9.1.16.1. Deep Sea fishing effort (kW*days), 2000 – 2011, by country and by gear, in CECAF area 34.1.2 EU.

Western Waters 34.1.2.EU

Effort is low within this area. Portugal is the sole nation with effort reported in this area and uses longlines (Table 5.9.1.16.3 and Figure 5.9.1.16.2). Some of this effort, since 2004, has been directed toward deepwater fisheries.

Table 5.9.1.16.3.- Effort (kW*days) by country, gear and vessel size group within CECAF area 34.1.2 EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
34.1.2 EU	longline	PRT	o15m	0	0	0	3581	0	3581	0	0	0	2148	0	2148	28318	8771	19547
	trammel	PRT	o15m	0	0	0	0		0	0		0	0		0	2327		2327
Total				0	0	0	3581	0	3581	0	0	0	2148	0	2148	30645	8771	21874

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
26934	12191	14743	17545	6808	10737	26403	14909	11494	43931	19293	24638	67616	24163	43453	30311	11727	18584	49678	15660	34018
0		0	0		0	0		0	0		0	0		0	0		0	0		0
26934	12191	14743	17545	6808	10737	26403	14909	11494	43931	19293	24638	67616	24163	43453	30311	11727	18584	49678	15660	34018

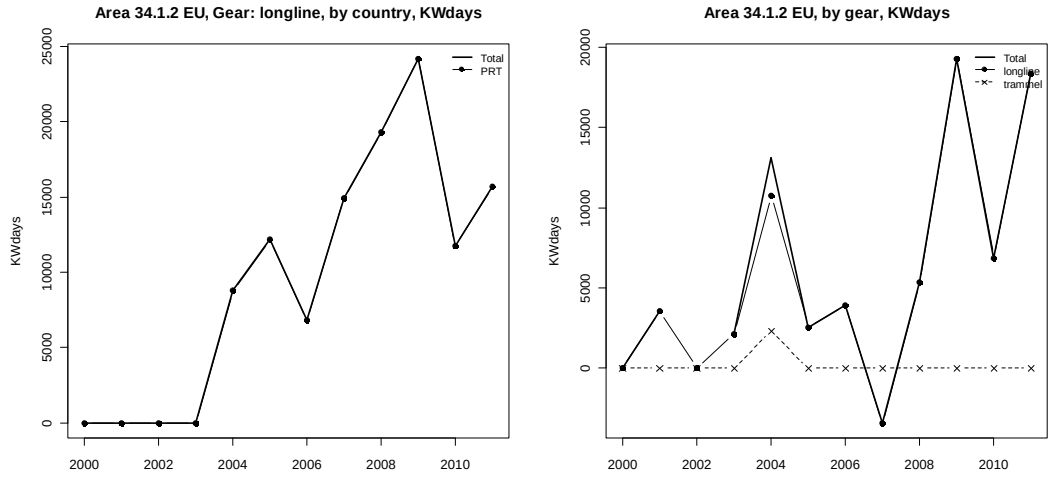


Figure 5.9.1.16.2.- Effort (kW*days) reported within CECAF area 34.1.2 EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort.

5.9.1.17 Fishing effort in CECAF area 34.1.3

Deepwater and Western Waters 34.1.3 EU

No effort was submitted within this area.

Deepwater 34.1.3 non-EU

Only a very small amount of deep sea effort was recorded in this area by the Netherlands and only in 2004. Netherlands effort was pelagic trawls. No data were submitted to the group by Spain.

Table 5.9.1.17.1.- Deep Sea fishing effort (kW*days) 2000 – 2011 by member state CECAF area 34.1.3 non-EU.

AREA	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.3 non EU	NLD					22944							
34.1.3 non EU Total						22944							

Table 5.9.1.17.2.- Deep Sea fishing effort (kW*days) 2000 – 2011 by gear and member state CECAF area 34.1.3 non-EU.

Area	Gear	ms	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.3 non E	PELAGIC TRAWLS	NLD					22944							
34.1.3 non EU Total							22944							

Western Waters 34.1.3 non-EU

No effort data was submitted within this area. The Netherlands, however, made a submission of deepwater effort in 2004, highlighting a data issue.

5.9.1.18 Fishing effort in CECAF area 34.2

Deepwater 34.2.0 EU

There are no data for CECAF Subarea 34.2.0

Western Waters 34.2.0 EU

Effort

Effort is low within this area. According to the data provided Ireland carried out some pelagic trawls in 2008, and Portugal submitted bottom trawl effort for 2011, Table 5.9.1.18.1 and Figure 5.9.1.18.1). None of this effort is associated with deepwater fisheries.

Table 5.9.1.18.1.- Effort (kW*days) by country, gear and vessel size group within CECAF area 34.2.0 EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
34.2.0 EU	longline	PRT	o15m	0		0	0		0	0		0	0		0	0		0
	pelagic trawls	IRL	o10t15m	0		0	0		0	0		0	0		0	0		0
Total				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0		0	0		0	0		0	0		0	0		0	0		0	7202		7202
0		0	0		0	0		0	291		291	0		0	0		0	0		0
0	0	0	0	0	0	0	0	0	291	0	291	0	0	0	0	0	0	7202	0	7202

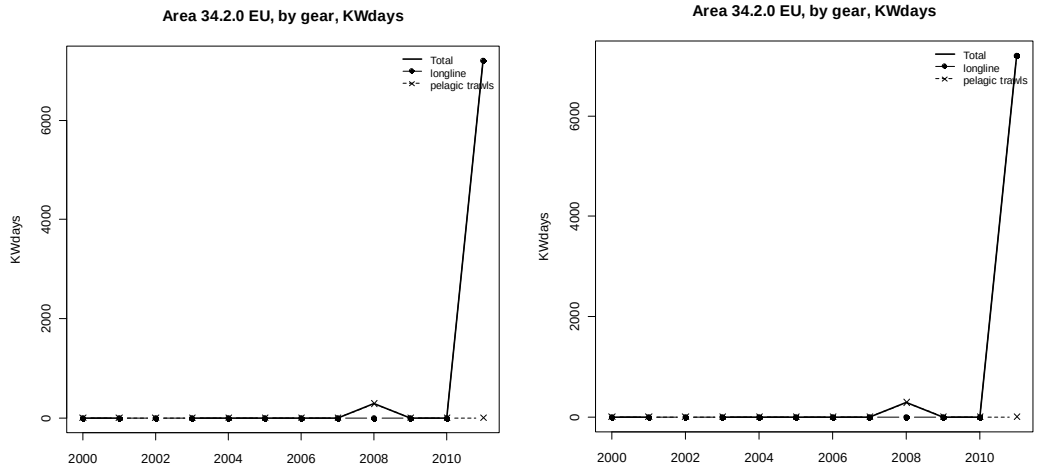


Figure 5.9.1.18.1.- Effort (kW*days) reported within CECAF area 34.2.0 EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort.

Western waters CECAF Area 34.2.0 non-EU

Effort is low within this area. According to the data provided, a relatively small Portuguese longline fishery began in this area in 2005, which has subsequently declined (Table 5.9.1.17.2 and Figure 5.9.1.18.2). None of this effort is associated with deepwater fisheries.

Table 5.9.1.16.3.- Effort (kW*days) by country, gear and vessel size group within CECAF area 34.2.0 non-EU, 2000-2011.

				2000			2001			2002			2003			2004		
Area	Gear	Country	Vessel length	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
34.2.0 non EU	bottom trawls	PRT	o15m	0		0	0		0	6885		6885	0		0	0		0
	longline	PRT	o15m	0		0	0		0	0		0	0		0	0		0
Total				0	0	0	0	0	0	6885	0	6885	0	0	0	0	0	0

2005			2006			2007			2008			2009			2010			2011		
Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep	Effort	Deep Effort	Excluding Deep
0		0	0		0	0		0	0		0	0		0	0		0	0		0
63205		63205	29104		29104	15157		15157	13984		13984	0		0	23696		23696	12582		12582
63205	0	63205	29104	0	29104	15157	0	15157	13984	0	13984	0	0	0	23696	0	23696	12582	0	12582

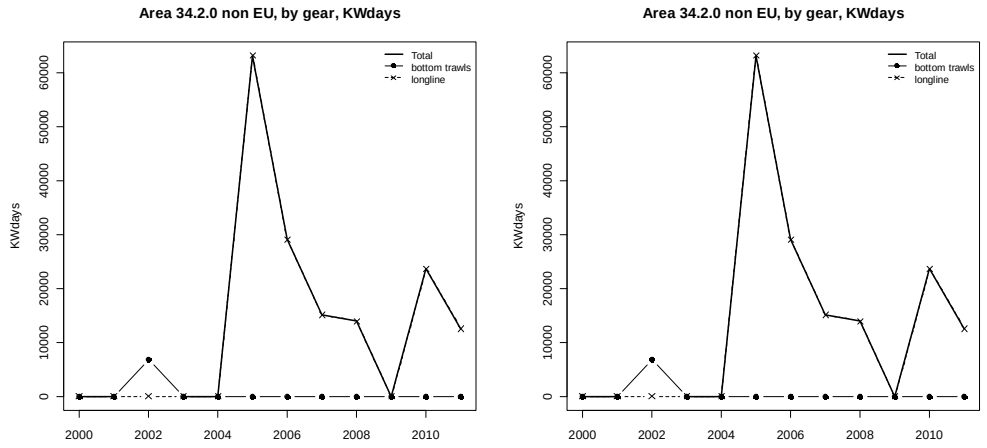


Figure 5.9.1.18.2.- Effort (kW*days) reported within CECAF area 34.2.0 non-EU by gear type, 2000-2011, with (left) and without (right) reported deepwater effort.

5.9.2 ToR 1b Catches (landings and discards) by area

In this section of the report tables showing catches by gear groups (regulated and unregulated), area and nation are only summaries. The full tables are available on the JRC website: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

Some of the tables and graphs presented in this section need to be treated with caution. A full analysis of the data can't be undertaken due to discrepancies in the data submitted by Portugal. This mainly affects information from ICES area VIII to CECAF area 34.2 0.

Similarly Spain has not provided data for 2010 and 2011.

5.9.2.1 Catches in ICES area I by fisheries and Member States only linked to Deep Sea species

No information was provided from this area.

5.9.2.2 Catches in ICES area II by fisheries and Member States only linked to Deep Sea species

Tables 5.9.2.2.1 shows the top 5 deepwater species landed in Area II (EU). The largest landings were of greater argentine taken, in 2004, by pelagic trawls in a clean fishery operating in EU waters, (Figure 5.9.2.2.1), probably in the region of the Norwegian slope.

Bottom trawl landings are the next most important and several species are taken in EU waters. From 2004 to 2009 the main species targeted was blue ling. Catches were increasing up to 2009 and the fishery appears to be targeted as catches are quite clean. In 2010 however blue ling trawl catches dropped considerably and this continued into 2011. Greater argentine catches were highest in the bottom trawl fishery in 2010.

Gill nets recorded small catches of deep-water red crab in 2010.

The ranking is based according to the average of the landings of the last three years of the time series.

There was deepwater effort in ICES Area II non-EU but no landings of Annex 1 or 2 species were recorded.

Table 5.9.2.2.1 Top 5 deepwater species landed (t) in Area II. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
2 eu	ARU	2	430	NA	NA	NA	NA	NA	23	NA
2 eu	BLI	1	1	3	4	8	20	18	5	3
2 eu	KEF	NA	NA	NA	NA	NA	NA	NA	1	NA
2 eu	BRF	NA	NA	NA	NA	1	2	NA	NA	NA
2 eu	BSF	NA	NA	NA	NA	NA	NA	NA	NA	NA

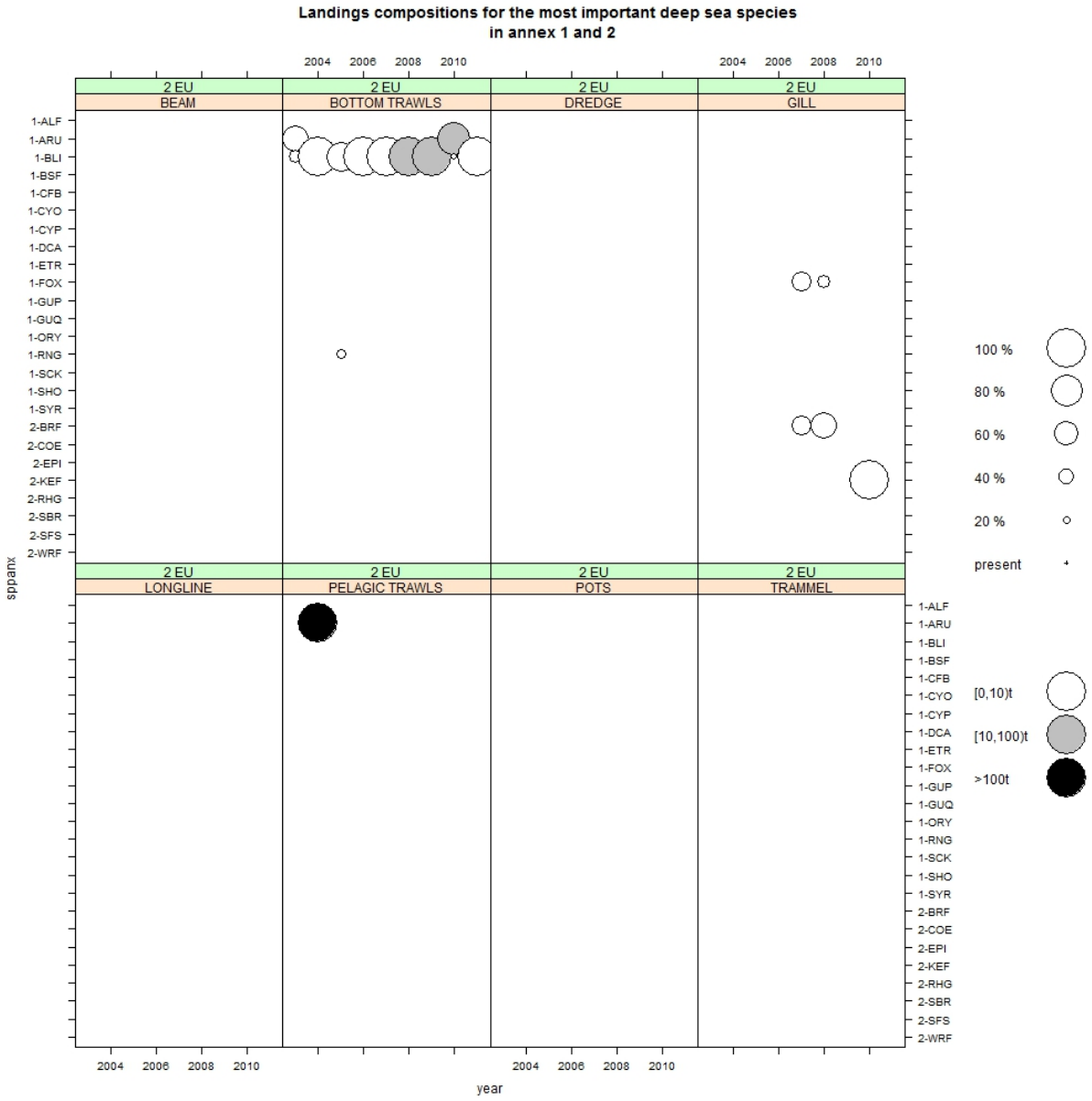


Figure 5.9.2.2.1. Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area II EU. Size of circles represents relative contribution to landings, shading indicates quantity.

5.9.2.3 Catches in ICES area III by fisheries and Member States only linked to Deep Sea species

The main fishery was roundnose grenadier targeted by Danish bottom trawlers, up to 2006. No fishing took place in 2007 or 2008, but small amounts of grenadier were landed again between 2009 and 2011. Landings of greater argentine and blue ling were recorded between 2003 and 2006. Greater argentine landings started off quite high but declined each year. Blue ling landings were low but reasonably stable.

Table 5.9.2.3.1. The 5 most important (in weight landed, t) Deep Sea species in ICES Area III no Baltic. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
3 no baltic	RNG	3333	5081	9975	2016	NA	NA	1	1	5
3 no baltic	CMO	NA	NA	NA	NA	NA	NA	NA	1	2
3 no baltic	BLI	17	18	47	42	NA	NA	NA	NA	1
3 no baltic	ARU	929	990	547	366	NA	NA	NA	NA	NA
3 no baltic	ETX	NA	NA	NA	9	NA	NA	NA	NA	NA

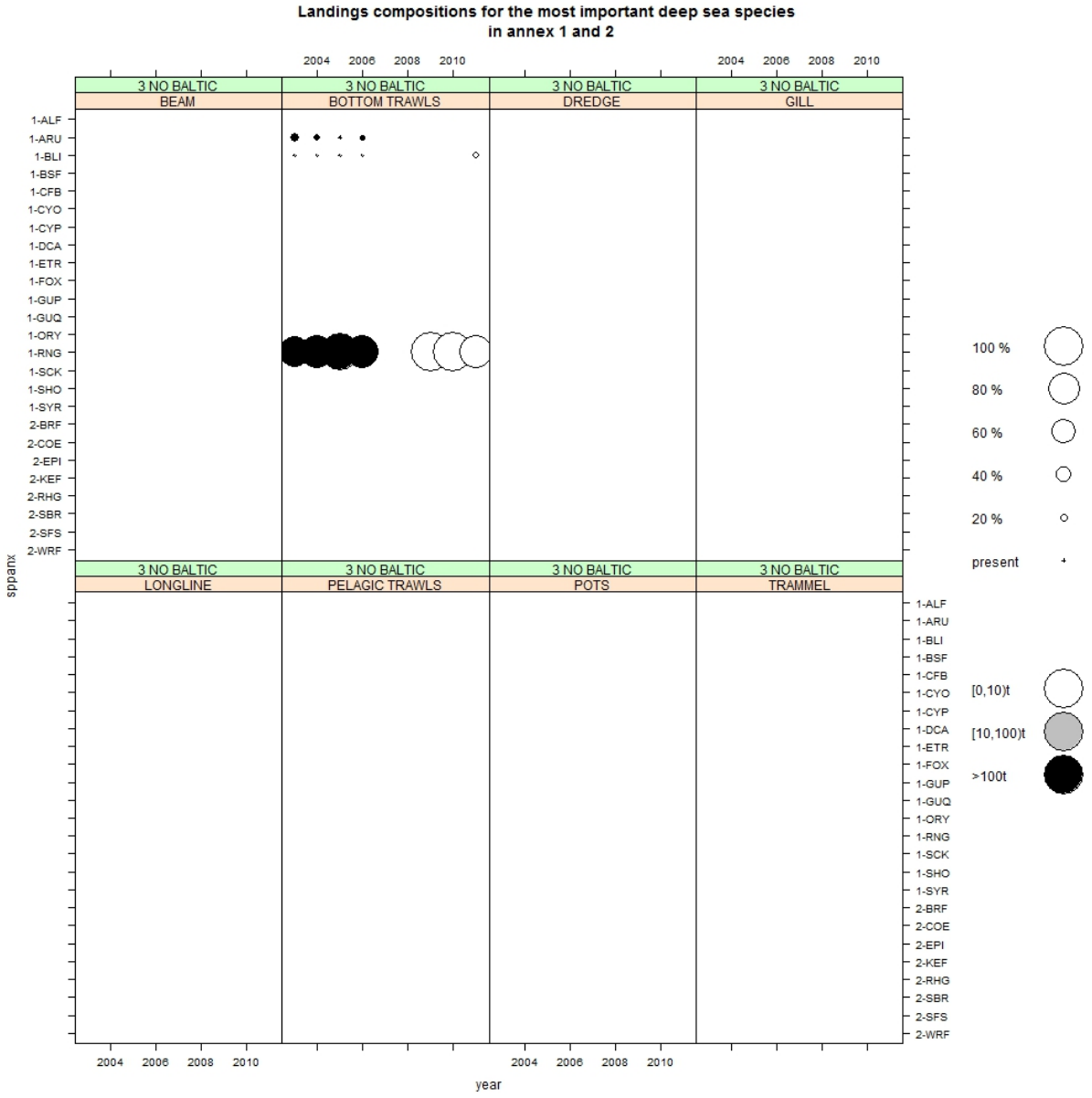


Figure 5.9.2.3.1. Landings composition of Annex 1&2 Deep Sea species 2003-2011 by gear ICES Area III no Baltic. Size of circles represents relative contribution to landings, shading indicates quantity.

5.9.2.4 Catches in ICES area IV by fisheries and Member States only linked to Deep Sea species

The species are typical of the mixed trawl fishery in the North Sea with black scabbard and blue ling dominating. Blue ling landings decreased in the mid 2000s but began increasing again in 2007. However a sharp decrease in landings was noted for 2011. Small numbers of Black scabbard were caught in the mid 2000s, but apart from 2010 no catches have been recorded since 2007. Roundnose grenadier landings have been low since 2007 although an increase was noticed in 2010. However no roundnose grenadier landings are recorded for 2011.

It is notable that few sharks are landed from the trawl fishery and that landings of sharks from gill nets have ceased, probably reflecting the ban on Deep Sea gillnets. Conger eel catches started to rise in 2007, and have been stable at low levels for the last three years. Deep-water red crab, *Chaceon affinis* are important in the gill net fishery but landings have been decreasing since 2008. The moderately large pelagic landings of greater silver smelt in the mid 2000s are to be expected.

Table 5.9.2.4.1 The top 5 deepwater species landed (t) in Area IV. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
4	BLI	26	34	12	9	4	10	16	52	5
4	BSF	NA	5	2	13	1	NA	NA	21	NA
4	COE	7	8	8	6	9	6	15	13	16
4	RNG	5	6	18	7	25	1	1	23	NA
4	ARU	20	52	NA	39	NA	NA	NA	10	NA

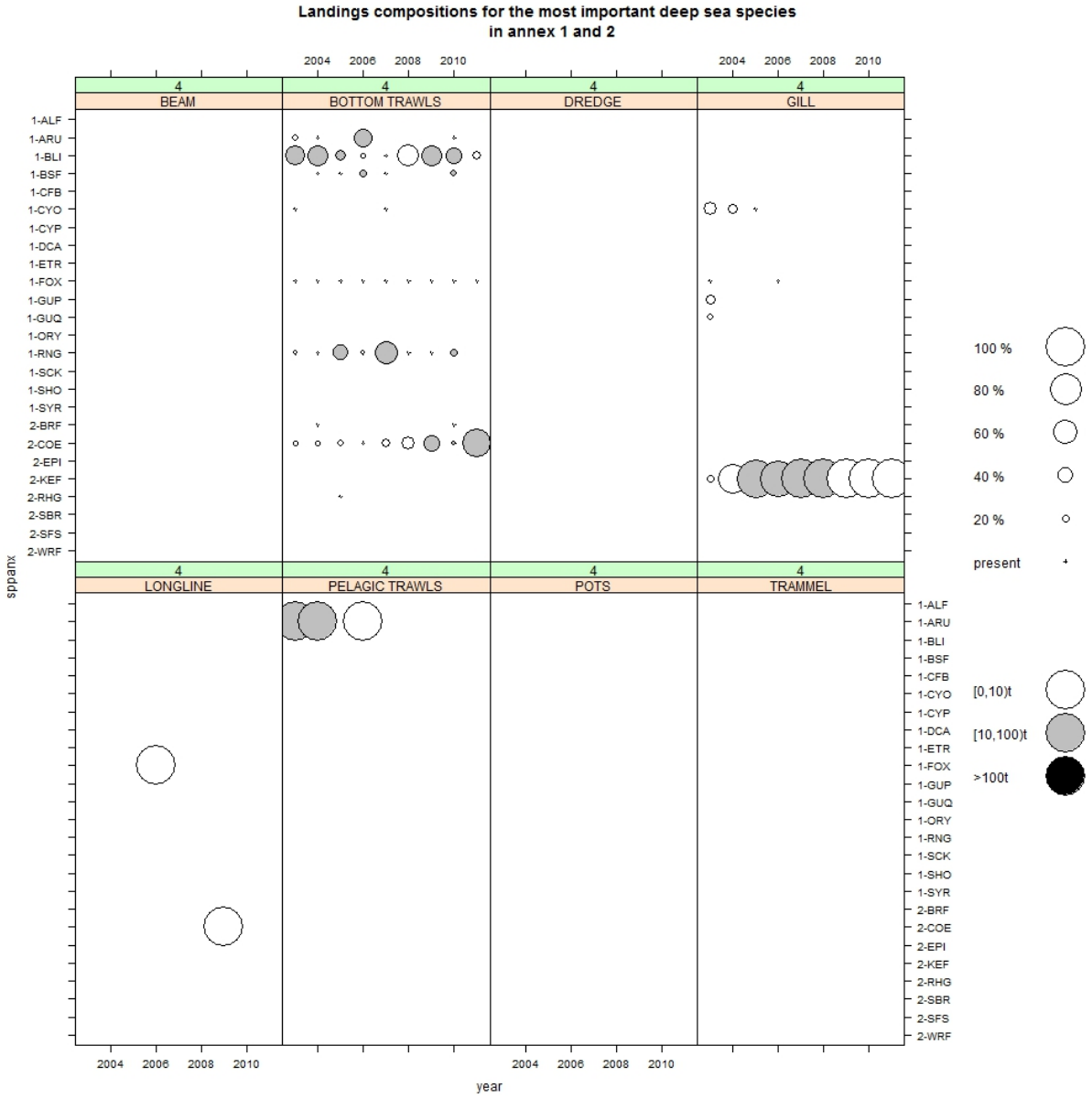


Figure 5.9.2.4.1. Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area IV. Size of circles represents relative contribution to landings, shading indicates quantity.

5.9.2.5 Catches in ICES area V by fisheries and Member States

Deepwater V EU

Bottom trawls provides the majority of landings from this area (Figure 5.9.2.5.1, Table 5.9.2.5.1). The main species targeted are roundnose grenadier and blue ling, with smaller catches of black scabbard, leafscale gulper sharks, and regular landings of roughhead grenadier and blue mouth redfish.

Blue ling landings were highest at the start of the time series, but have been in decline since 2003, apart from a second peak in 2007. Roundnose grenadier landings were stable up to 2007 when they too went into decline. In 2011 landings of roundnose grenadier were very small.

In 2010 Scotland reported landings of greater silver smelt and France both Portuguese dogfish and black dogfish.

Up to 2009 gill nets were landing small amounts, less than 10 tonnes, of blue ling, and in the early part of the time series also caught deepwater red crab, *Chaceon affinis,* but this ended in 2006. Netherlands pelagic trawlers landed greater silver smelt in 2004 and 2005 but nothing since.

Beam trawl data from 2003 and 2004 may be misclassified bottom trawl data.

Table 5.9.2.5.1. shows the top 5 deepwater species landed in ICES Area V EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 eu	BLI	895	859	643	647	806	591	590	359	303
5 eu	RNG	657	682	706	747	769	404	404	309	8
5 eu	BSF	144	81	71	75	96	145	145	111	79
5 eu	ARU	1	42	27	NA	NA	NA	NA	40	NA
5 eu	CFB	NA	NA	NA	NA	NA	NA	NA	38	NA

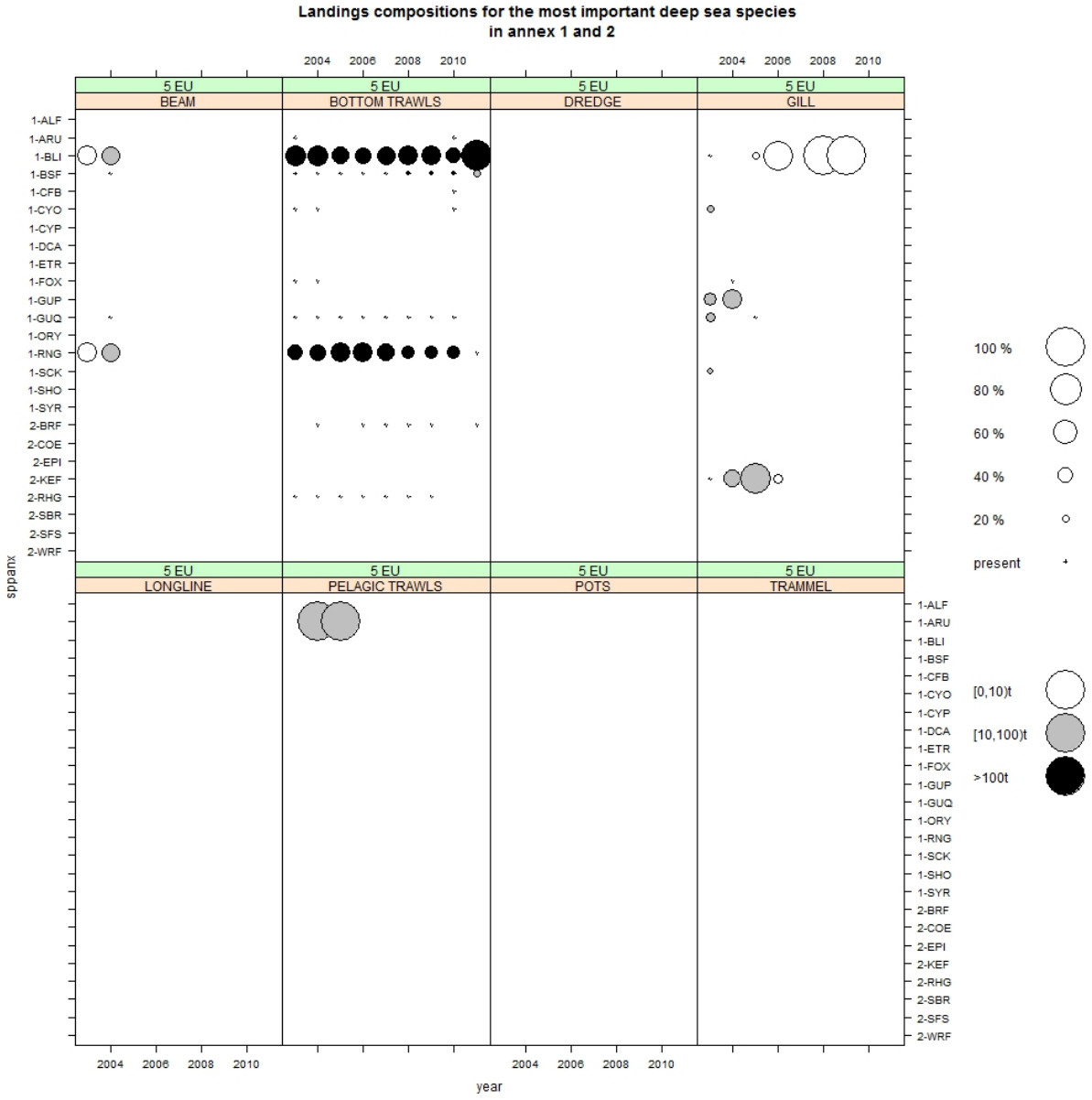


Figure 5.9.2.5.1. Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area V EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Western Waters 5 EU

Catch and catch composition

The majority of demersal species landings are associated with the deepwater fisheries taking place within the area.

The top five demersal species landed from V EU are detailed within Table 5.9.2.5.2 showing anglerfish (ANF) to have had the greatest landings in recent years. However anglerfish landings dropped dramatically from 270t in 2009 to just 3t in 2010, and 6t in 2011. Landings of this species originate solely from France. In

2009 and 2010 large landings of Greenland halibut were reported, but these dropped to recent levels in 2011. Landings of all other species averaged across 2009 to 2011 are very low.

Small quantities of deep-water red crab (KEF) and edible crab (CRE) were landed from this area prior to 2006 (Table 5.9.2.5.3). Nothing has been landed in recent years.

The primary pelagic species landed is blue whiting (WHB), although no landings were reported for 2011. Sporadic landings of mackerel (MAC) also occur (Table 5.9.2.5.4).

Table 5.9.2.5.2. Top demersal species landed (tonnes) (average 2009-2011) within Area V EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 EU	ANF	L	51	252	341	208	171	272	270	3	6
5 EU	GHL	L	94	86	24	11	10	64	118	132	11
5 EU	POK	L	62	35	75	93	72	22	22	5	23
5 EU	DGS	L	66	85	83	82	82	11	11	1	NA
5 EU	HAL	L	4	7	6	10	17	8	8	3	2

Table 5.9.2.5.3. Scallop and crab species by gear landed within Area V EU, 2003-2011. Values are landings in tonnes.

area	gear	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 EU	GILL	CRE	5	3	4	8					
		KEF	23	19	18	1					
	POTS	CRE		2		12					

Table 5.9.2.5.4. Top pelagic species landed (tonnes) (average 2009-2011) within Area V EU, 2003-2011.

area	**species**	**Type**	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 EU	WHB	L	8939	3736	2309	1325	982	734	571	922	
5 EU	MAC	L	1279	2142	1					11	90
5 EU	CAP	L	5								
5 EU	HER	L	6								

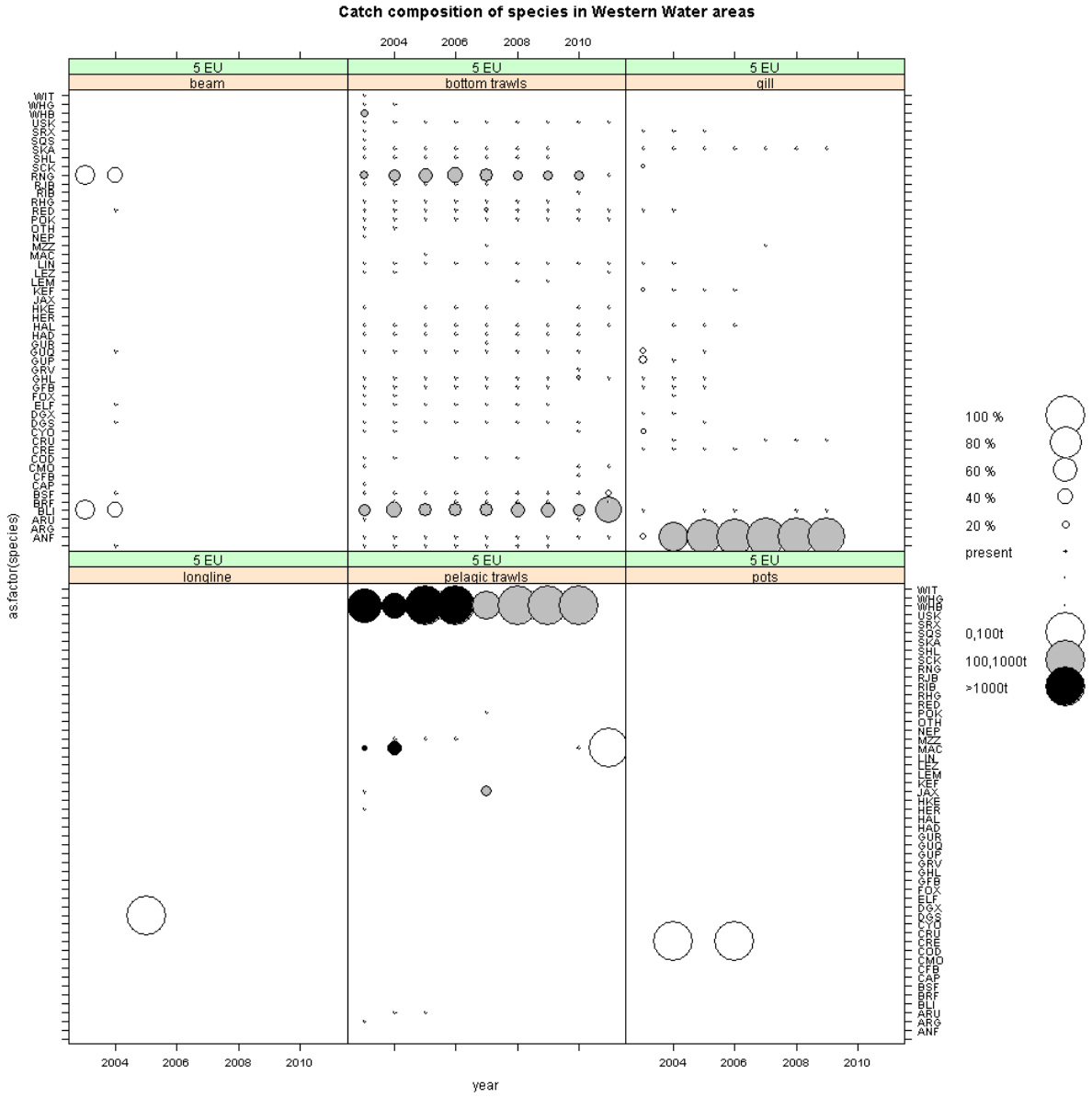


Figure 5.9.2.5.2. Landings composition by gear (countries combined) Western waters area V EU, 2003-2011. Size of circles represents relative contribution to landings, shading indicates quantity.

Deepwater V non-EU

Landings are solely provided by bottom trawls (Figure 5.9.2.5.3, Table 5.9.2.5.5). The main species landed are blue ling and roundnose grenadier. However since 2005 there has been a significant reduction in the grenadier landings down to a very low level. From 2006 Blue ling provided the greatest landings however after reporting stable landings in the previous three years no landings are provided for 2011.

France also records regular landings of black scabbard, but this ceased in 2011. Scottish landings of Portuguese dogfish ceased in 2005 but in 2010 France reported landings for both Portuguese dogfish and Black dogfish.

Again there is a possible issue of misclassified beam trawl data.

Table 5.9.2.5.5 Top 5 deepwater species landed (t) in ICES Area V non-EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 non eu	BLI	345	370	257	240	478	365	434	304	NA
5 non eu	BSF	35	82	55	17	20	14	15	41	NA
5 non eu	RNG	385	380	226	128	93	44	45	22	2
5 non eu	CYO	1	7	8	NA	NA	NA	NA	18	NA
5 non eu	CFB	NA	NA	NA	NA	NA	NA	NA	13	NA

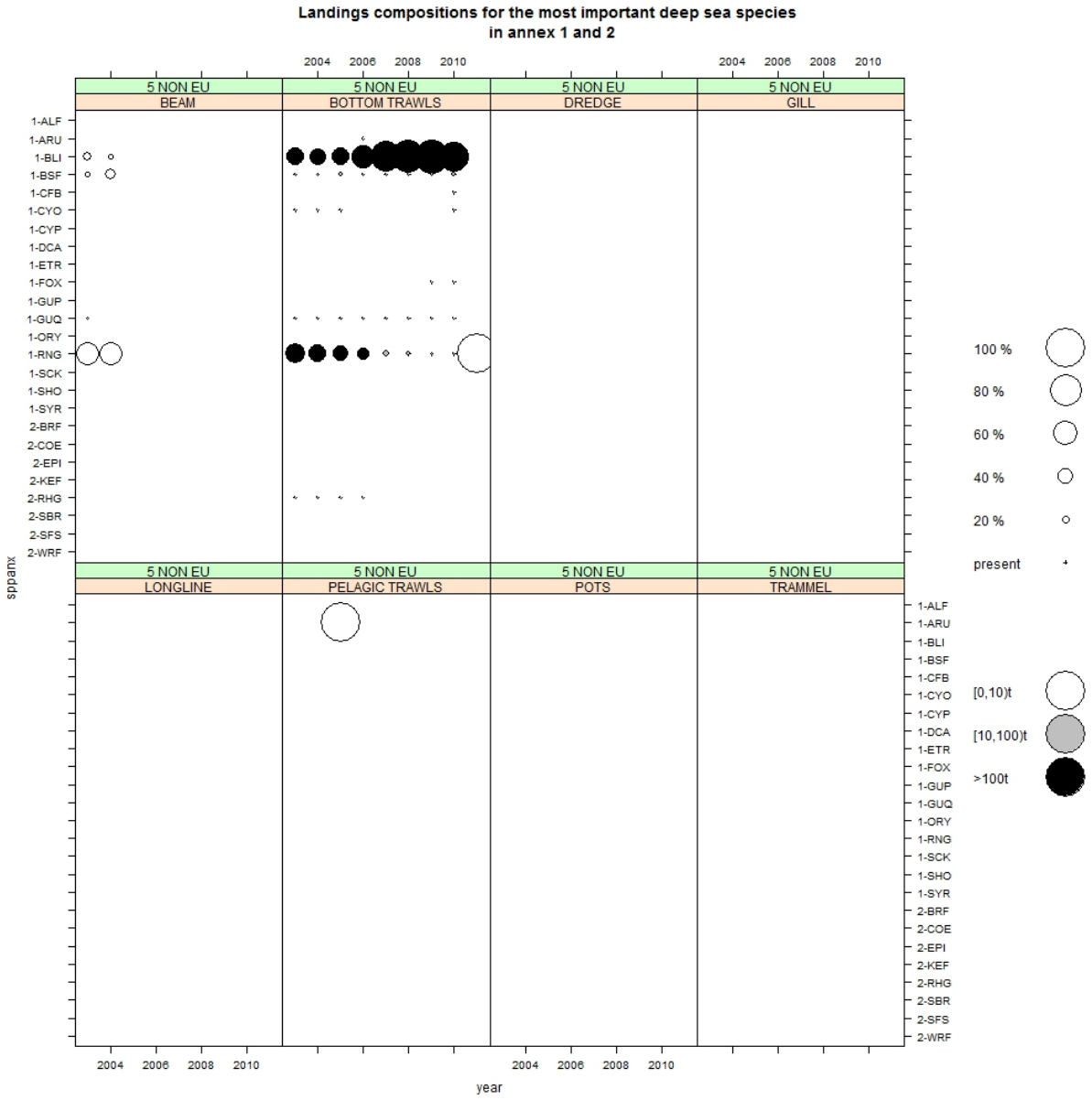


Figure 5.9.2.5.3. Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area V non-EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Western Waters V non-EU

The top five demersal species landed from V non-EU are detailed within Table 5.9.2.5.6. Up to 2009 saithe (POK) contributed the biggest landings both as recent average and over the period available, however landings dropped markedly in 2011. In 2010 and 2011 the largest landings in this area were Greenland halibut (GHL) reported by Germany and Scotland. Declining quantities of cod (COD) have also been landed from this area by Scotland, however in 2011 only 1t of cod were reported for this area by France. Anglerfish and haddock also occur in the current top five with variable landings, and no landings were reported for either species in 2011.

No landings of scallops or crabs were reported within this area.

Blue whiting (WHB) is the sole pelagic species landed in recent years. In the last three years landings are only reported for 2010, (Table 5.9.2.5.8).

Table 5.9.2.5.6. Top demersal species landed (tonnes) (average 2009-2011) within Area V non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 NON EU	GHL	L	161	64	41	23	230	185	467	1035	577
5 NON EU	POK	L	1259	1363	1556	1216	454	409	689	758	130
5 NON EU	POK	D	273	83	497	27	NA	NA	NA	NA	NA
5 NON EU	COD	L	493	782	803	337	423	412	339	366	1
5 NON EU	COD	D	NA	NA	5	150	NA	NA	NA	NA	NA
5 NON EU	ANF	L	104	174	265	244	123	73	174	108	NA
5 NON EU	HAD	L	183	195	128	109	51	65	91	74	NA

Table 5.9.2.5.7. Scallop and crab species by gear landed within Area V non-EU, 2003-2011. Values are landings in tonnes.

No data available

Table 5.9.2.5.8. Top pelagic species landed (tonnes) (average 2009-2011) within Area V non-EU, 2003-2011.

area	**species**	**Type**	2003	2004	2005	2006	2007	2008	2009	2010	2011
5 NON EU	WHB	L	6455	4961	13593	7537	6926	8520		1628	
5 NON EU	CAP	L	3820								
5 NON EU	HER	L				4					
5 NON EU	MAC	L		2							

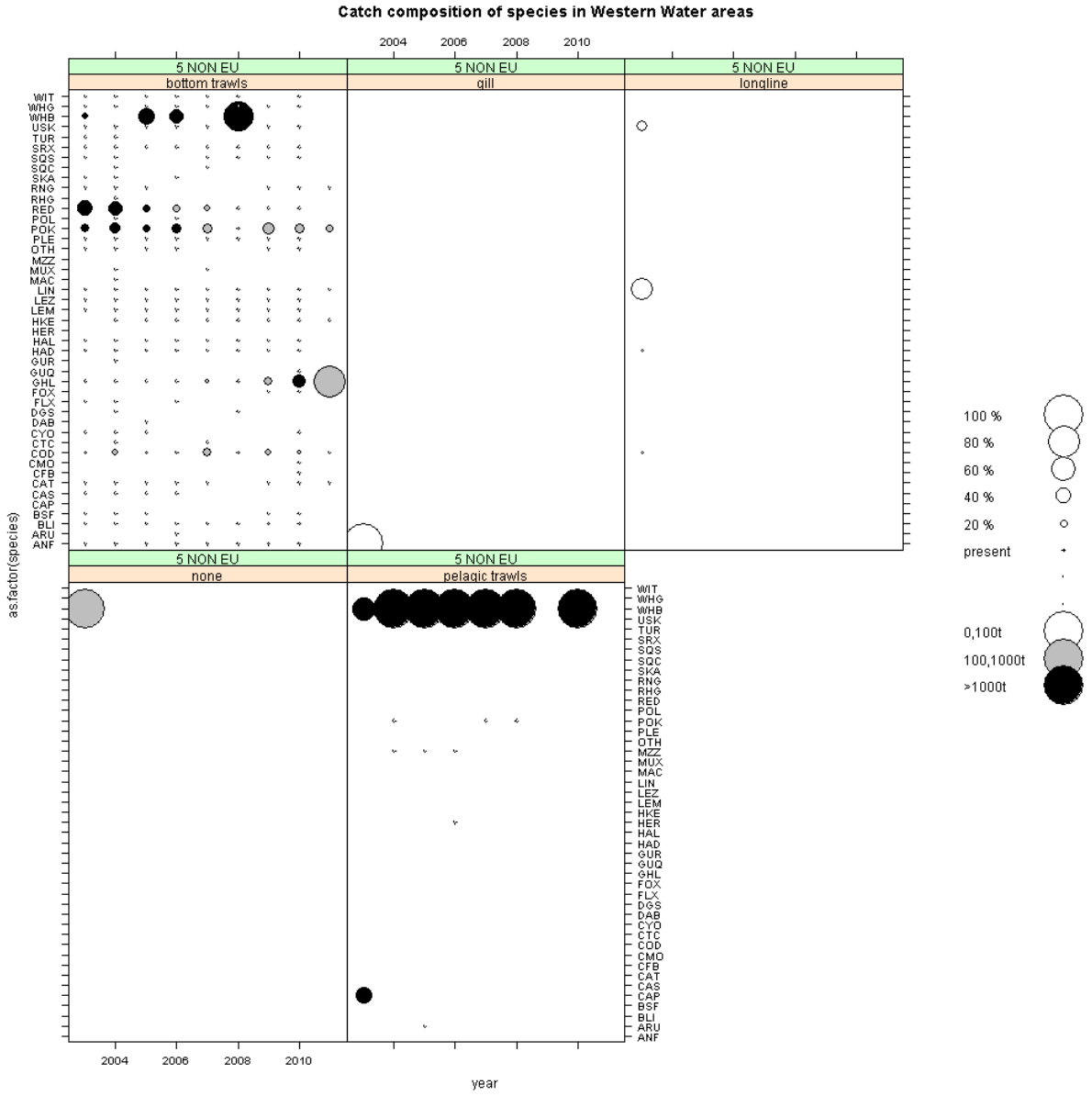


Figure 5.9.2.5.4. Landings composition by gear (countries combined) Western waters area V non-EU, 2003-2011. Size of circles represents relative contribution to landings, shading indicates quantity.

5.9.2.6 Catches in ICES area VI by fisheries and Member States

Deepwater VI EU

Table 5.9.2.6.1 shows the top 5 deepwater species landed, and Figure 5.9.2.6.1 shows aggregate catches by gear in VI (EU).

There is a mixed bottom trawl fishery targeting roundnose grenadier, blue ling and black scabbard. It is conducted mainly by France with small landings by Scotland. Roundnose grenadier landings were highest in 2003 and have been in slow decline since. Black scabbard landings were reasonably stable up to 2009 but have declined by 40% in the last two years. Blue ling landings were stable until 2006, but then also began declining. In 2010 and 2011 France reported reasonably high landings of *Chimaera monstrosa*.

Of the other Annex 1 species Portuguese dogfish, leafscale gulper sharks and greater forkbeard are all landed consistently, albeit in small amounts. Of the Annex 2 species blue mouth redfish, conger eel and roughhead grenadier are also all landed regularly. Beam trawl landings of roundnose grenadier and blue ling, in 2003 and 2004, are probably misclassified.

Pelagic trawls, mainly Dutch, are targeting greater silver smelt although landings have started decreasing in recent years. However in 2011 large landings, 1485t, were reported

Longlines, in recent years, are primarily targeting greater forkbeard. Landings have increased in the last three years. There are also regular landings of blue mouth redfish and conger eel. Historically various species of shark were targeted but these landings have stopped since 2007.

In the early 2000s there were large landings of Portuguese dogfish by the UK using gill nets. Other sharks, such as leafscale gulper shark, were also targeted. These landings stopped in 2006. Scotland and England are currently using gill nets to target deep-water red crab, *Chaceon affinis*, with regular landings of 10 – 100 tonnes in the last few years. Landings were minimal for 2008 and 2009 but have increased in 2010. This species was also fished using pots up until 2008.

Table 5.9.2.6.1. Top 5 deepwater species landed in ICES Area VI EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 eu	BSF	3107	2859	2614	1814	2052	2373	2427	1801	1536
6 eu	BLI	2975	3287	2672	2565	2059	1717	1928	1450	1145
6 eu	RNG	5103	4651	2977	1949	1579	1440	1447	1308	876
6 eu	ARU	86	1204	187	216	195	NA	36	27	1485
6 eu	CMO	31	1	NA	6	10	8	NA	285	227

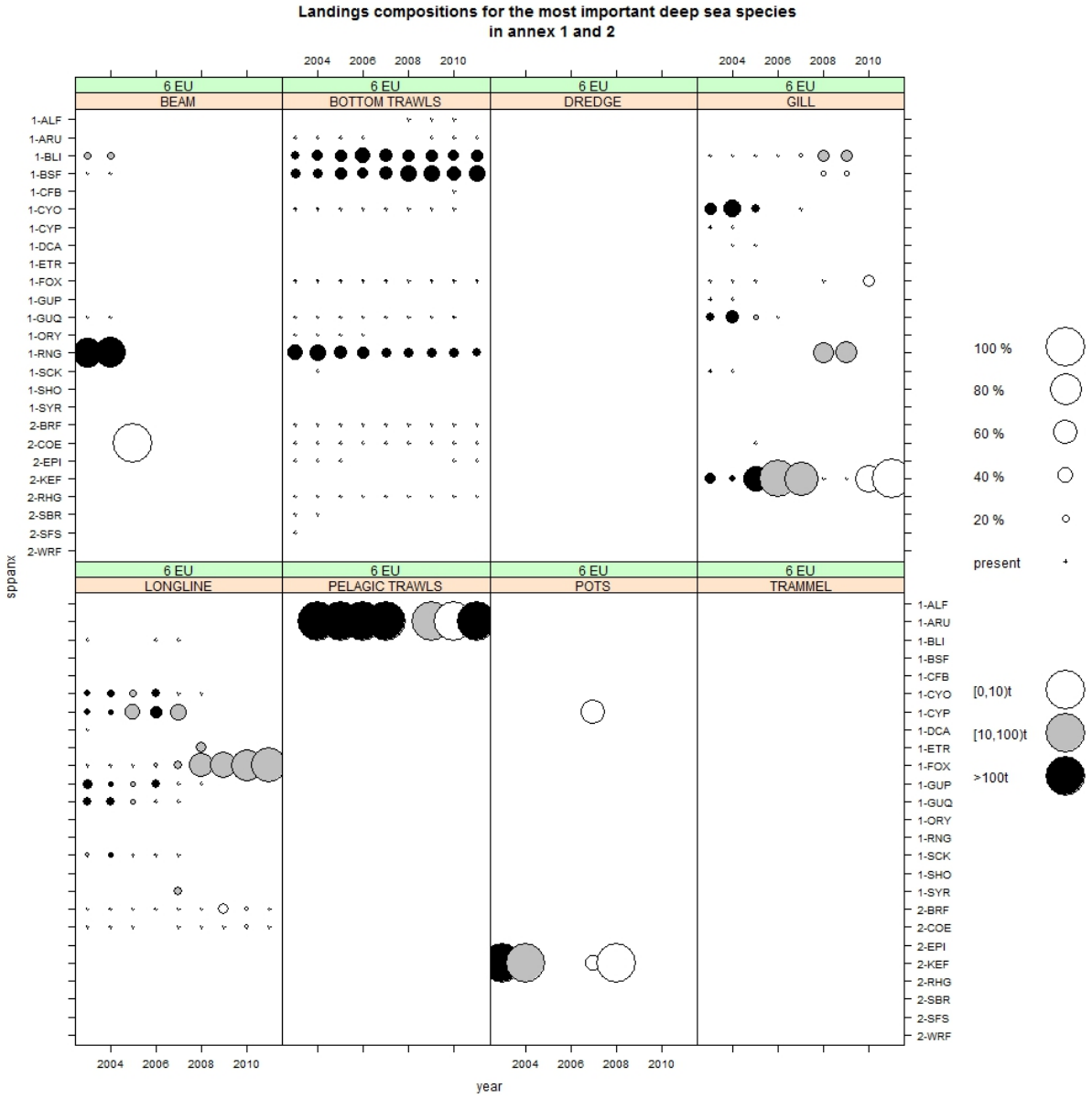


Figure 5.9.2.6.1. Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area VI EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Western Waters VI EU

There are a variety of different fisheries taking place within area VI EU by a number of different gears, as seen in Figure 5.9.2.6.2. The top five demersal species landed from VI EU are detailed within Table 5.9.2.6.2. Landings of all five species are far higher than those in area V. *Nephrops* (NEP) has both the greatest average landings and throughout the period, and although a slight decline is seen in most recent years landings appear to have stabilised. Saithe (POK) and haddock (HAD) show fluctuations without trend. Hake (HKE) landings show a steady increase over the whole period, as do those of anglerfish until 2010 when landings were reduced. Anglerfish landings increased again in 2011.

Table 5.9.2.6.3 details landings of scallops and crabs in area VI EU. Large scallop (SCE) landings occur from dredging, and indicate a declining trend until 2007, halted by an increase in 2008, since which landings have stabilised. Relatively small amounts of scallops are landed from the 'none' category, but this has been

declining in recent years. Pots contribute large quantities of edible crabs (CRE), landings of which increased until 2007. Landings dropped in 2008 and 2009 but have increased again in 2010 and 2011. Only minor landings of spider crab (SCR) have occurred between 2007 and 2009, from pots and traps.

There are four top pelagic species landed from VI EU (Table 5.9.2.6.4). Mackerel (MAC) rank first and have shown a declining trend however landings have increased again in the last three years. Blue whiting (WHB) has declined to lower levels than seen in the earlier period while horse mackerel landings in 2011 are at their highest level in the time period. Herring landings were reasonably stable until 2009 but have begun to decrease in the last two years.

Table 5.9.2.6.2. Top demersal species landed (tonnes) (average 2009-2011) within Area VI EU, 2003-2011. EU and non-EU waters, 5 most important (in weight landed) excluding scallops, edible crab and spider crab,

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 EU	NEP	L	8951	8567	8704	11463	13990	13045	10731	10186	11133
6 EU	POK	L	5147	4720	6486	9593	6688	6554	7356	5560	6627
6 EU	POK	D	11002	1406	8104	6064	2162	3338	27	643	1237
6 EU	HKE	L	636	1149	2010	2332	3480	3819	5237	6025	6558
6 EU	HKE	D	1052	1506	812	NA	736	453	628	483	1669
6 EU	HAD	L	6951	3748	3754	6221	5622	5259	5763	5128	3183
6 EU	HAD	D	7370	5263	3131	6494	4380	3127	3705	23037	1409
6 EU	ANF	L	2647	2748	3509	3374	4164	4510	4919	3231	4281
6 EU	ANF	D	1104	722	69	NA	225	96	119	28	92

Table 5.9.2.6.3. Scallop and crab species by gear landed within Area VI EU, 2003-2011. Values are landings in tonnes.

area	gear	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 EU	BEAM	SCE	25								
	BOTTOM TRAWLS	CRE	3	12	2		3			12	6
		SCE	8	2						3	2
	DREDGE	CRE	3	2	18		2				
		SCE	5226	4642	3994	3014	2687	3558	3115	2998	3053
	GILL	CRE	63	55	2	21		5	1	1	1
		KEF	551	266	544	28	75	29	11	19	3
	LONGLINE	CRE									1
	NONE	CRE			1					1	
		SCE	122	11	49	75	79	47	71	58	44
	POTS	CRE	7873	8117	8100	8648	9338	7986	7394	8947	8949
		KEF	477	94	1 2		385	773	164	83	115 1 6
		SCE		8						1	
		SCR					5	2	4		
	TRAMMEL	KEF	2								

Table 5.9.2.6.4. Top pelagic species landed (tonnes) (average 2009-2011) within Area VI EU, 2003-2011.

area	**species**	**Type**	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 EU	MAC	L	154587	126764	115097	98394	100538	86701	139443	107319	158688
6 EU	HER	L	35808	32236	36405	39978	36262	30778	30059	29443	24436
6 EU	WHB	L	39159	117778	116028	150046	57708	31622	34394	40723	8759
6 EU	JAX	L	22478	17745	14297	11167	22545	25065	19033	23546	40285
6 EU	ALB	L				1			33		
6 EU	SWO	L				1		0	0		

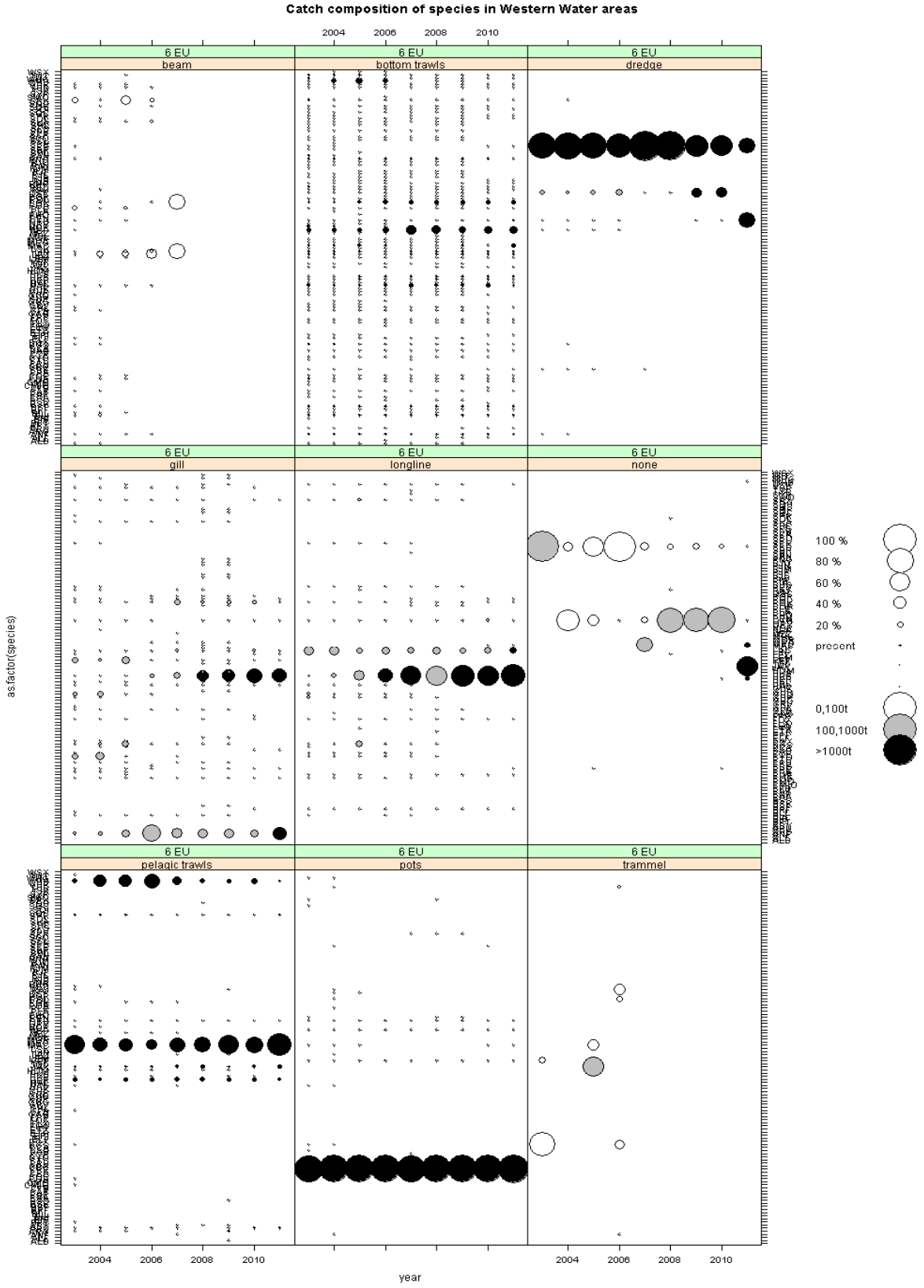


Figure 5.9.2.6.2 Landings composition by gear (countries combined) Western waters area VI EU, 2003-2011. Size of circles represents relative contribution to landings, shading indicates quantity.

Deepwater VI non-EU

Otter trawls in VI non EU are targeting blue ling, greater forkbeard and blue mouth redfish, but landings have been declining in recent years (Figure 5.9.2.6.3). Gill net landings, which were targeting deep-water red crab, Portuguese dogfish and greater forkbeard, ceased in 2007.

Table 5.9.2.6.5. Top 5 deepwater species landed (t) in ICES Area VI non-EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 non eu	FOX	26	24	23	33	52	20	5	6	NA
6 non eu	BLI	48	80	74	20	33	9	3	1	NA
6 non eu	BRF	32	44	39	36	15	3	NA	1	NA
6 non eu	ALC	NA	NA		61	82	NA	NA	NA	NA	NA	NA
6 non eu	BSF	1	1	73	3	NA	NA	NA	NA	NA	NA	NA

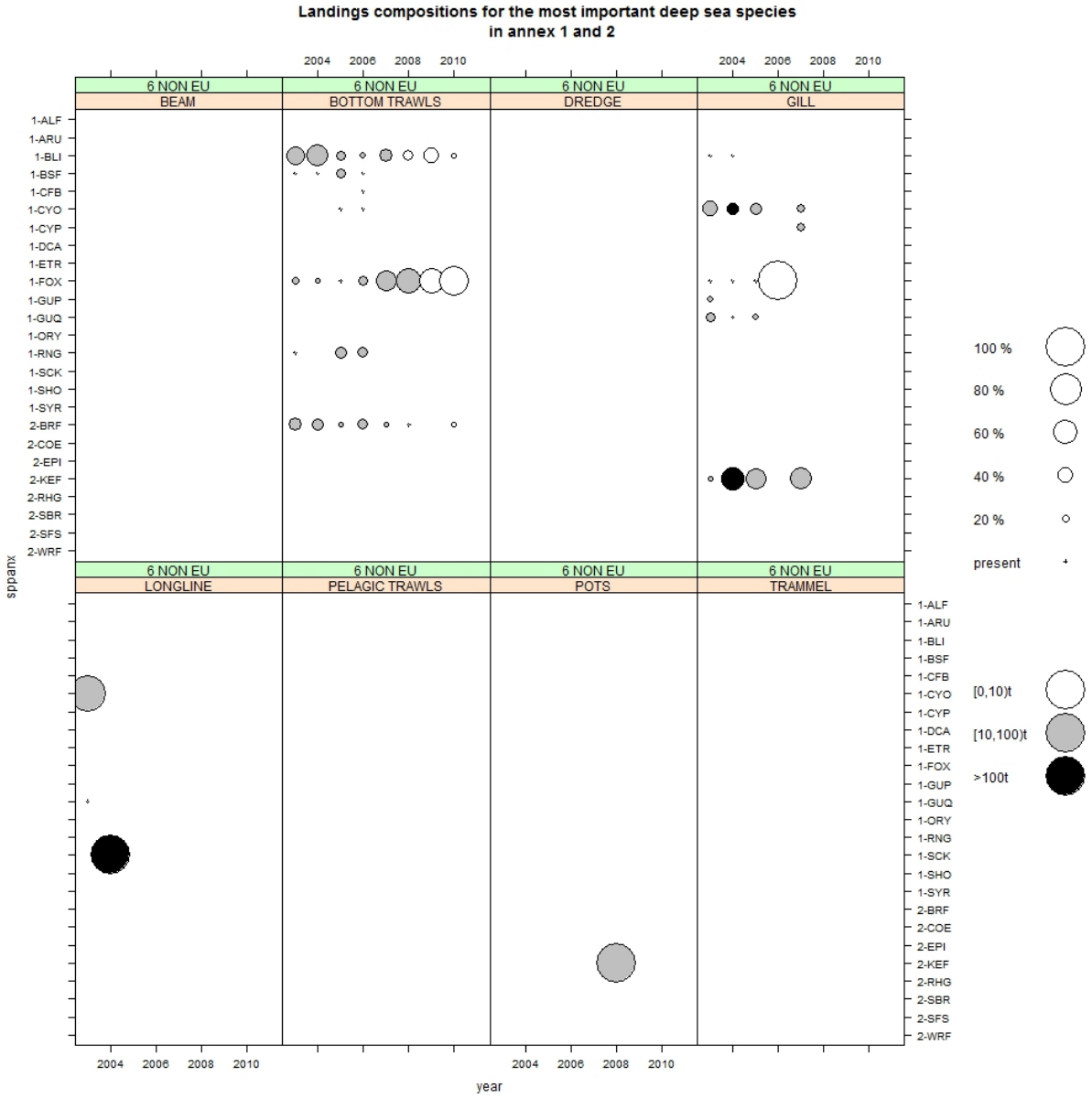


Figure 5.9.2.6.3. Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area VI non-EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Western Waters VI non-EU

The top five demersal species landed from VI non-EU are detailed within Table 5.9.2.6.6 with more general composition given in Figure 5.9.2.6.4.Witch has been an important species for both England and Scotland although landings have decreased after peaking in 2004. 2011 landings were the lowest on record. However, haddock is now the top demersal species, although landings have fluctuated wildly in recent years. Landings of anglerfish (ANF) have fluctuated over the years but they have been over 100t for the last two years. Landings of ling have been low during the time series. A small increase in the landings of saithe (POK) reflects the greater effort directed to demersal species within this area over the last two years.

Within area VI non-EU minimal crab (CRE) landings occurred (2003-2004) and no scallop landings have occurred (Table 5.9.2.6.7).

This is not an area of activity for pelagic fishing, blue whiting (WHB) landings occurred in 2003 since which there have been no pelagic landings (Table 5.9.2.6.8).

Table 5.9.2.6.6. Top demersal species landed (tonnes) (average 2009-2011) within Area VI non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 NON EU	HAD	L	281	18	4	4	67	21	333	849	373
6 NON EU	HAD	D	NA	NA	NA	NA	NA	NA	237	NA	32
6 NON EU	ANF	L	52	34293	217	95	172	20	42	124	104
6 NON EU	WIT	L	943	1085	585	549	377	235	44	153	8
6 NON EU	LIN	L	24	10094	8	9	19	6	15	61	32
6 NON EU	POK	L	2	NA	NA	NA	2	1	5	15	32
6 NON EU	POK	D	NA	NA	NA	NA	NA	NA	NA	3	9

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.6.7. Scallop and crab species by gear landed within Area VI non-EU, 2003-2011. Values are landings in tonnes.

area	gear	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 NON EU	GILL	CRE	1	5							
		KEF	24	186	41		37				
	POTS	KEF	18				25	28		78	14

Table 5.9.2.6.8. Top pelagic species landed (tonnes) (average 2009-2011) within Area VI non-EU, 2003-2011.

area	**species**	**Type**	2003	2004	2005	2006	2007	2008	2009	2010	2011
6 NON EU	WHB	L	8198	NA	NA	NA	NA	NA	NA	NA	

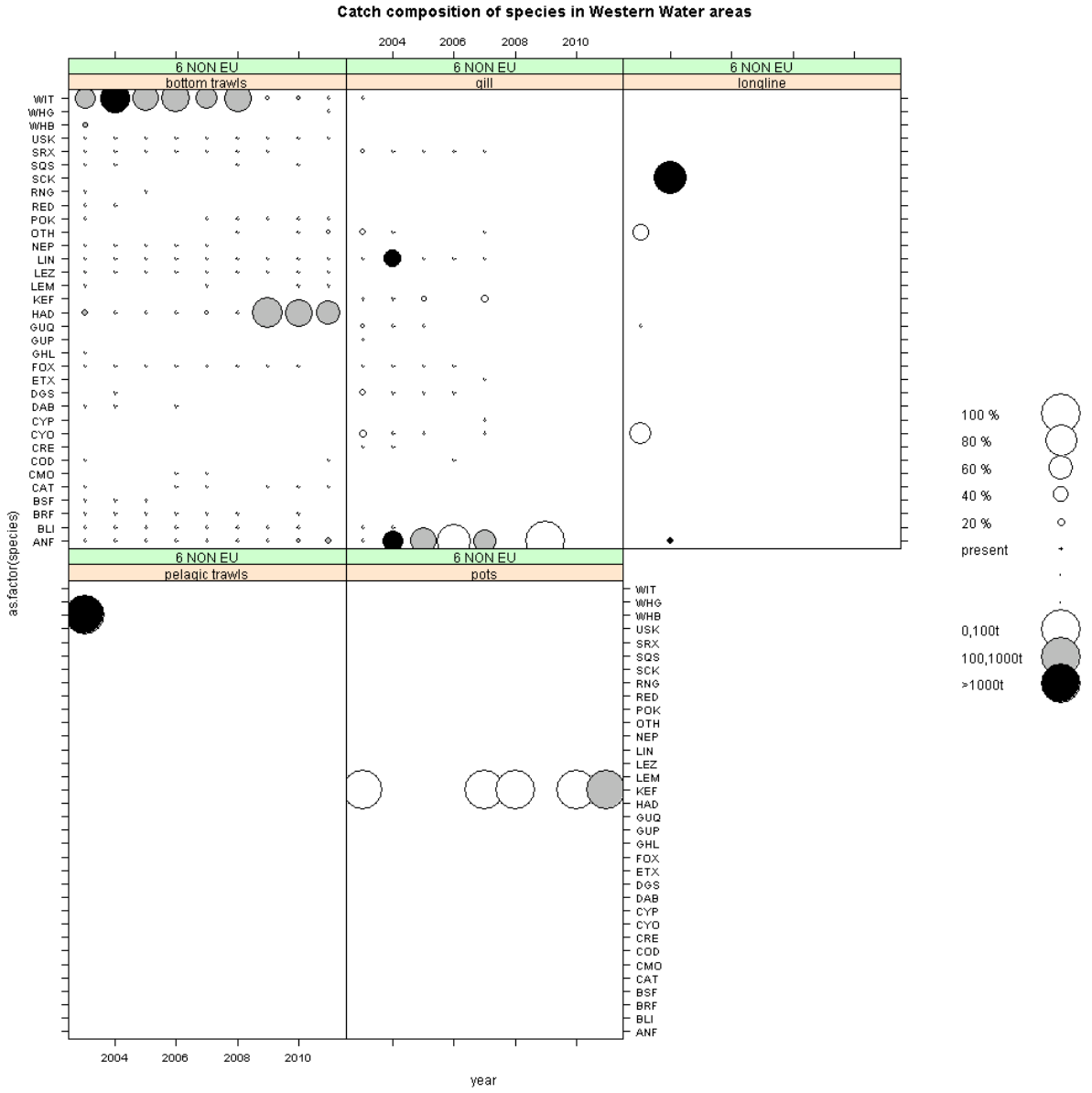


Figure 5.9.2.6.4 Landings composition by gear (countries combined) Western waters area VI non EU, 2003-2011. Size of circles represents relative contribution to landings, shading indicates quantity.

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

5.9.2.7 Catches in ICES area VII excluding VIId by fisheries and Member States

Deepwater VII EU no VIId

Longlines were originally responsible for landing sharks but this stopped in 2007. The main landings for this fishery were conger eel but landings have decreased in the last few years. This has been replaced by an increase in landings of blue mouth redfish and greater forkbeard, although both of these have begun falling in recent years.

The bottom trawl fishery produced a wide variety of landings. France and Ireland were targeting roundnose grenadier and black scabbard. Landings of grenadier started to decrease after 2007 while black scabbard landings stayed higher. Black scabbard landings suffered a dip in 2010, but increased again in 2011.

This fishery also reports catches for roughhead grenadier, Portuguese dogfish and cardinal fish. The cardinal fish catches were probably connected with the historic orange roughy fishery. Reported landings of the orange roughy fishery ceased in 2005. Reported landings of Portuguese dogfish ceased after 2007 but were reported again in 2010.

The trawl fishery conducted by Spain, England and Scotland reported catches mainly of conger eel, greater forkbeard and red seabream. While UK longline catches of conger eel have been decreasing in recent years, trawl catches have been on the increase. Greater forkbeard landings started to decrease in 2008 while catches of conger eel increased with 2010 producing the largest landings of the time series. Other species reported annually are blue ling, blue mouth redfish and alfonsinos, although landings are small.

The beam trawl fishery is conducted primarily by England. The main landings are conger eel but landings have begun to decrease in recent years. Small amounts of greater forkbeard are also landed.

Gill nets targeted sharks early on but the only shark species with reported landings after 2006 is Portuguese dogfish. Landings of deep-water red crab decreased after 2007 but have increased again in 2010 and 2011. There was an increase in landings of blue ling, blue mouth redfish and wreckfish up to 2009 but these have since declined. Landings of greater forkbeard have been increasing since 2007.

In 2011 France declared landings of 8t of Kitefin shark and 5t of conger eel using trammel nets.

Pelagic trawling for greater silver smelt stopped in 2005, although the Netherlands restarted the fishery in 2010. No landings are reported for 2011.

Table 5.9.2.7.1. Top 5 deepwater species landed (t) in ICES Area VII EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
7 eu no 7d	COE	678	572	496	380	295	217	147	146	107
7 eu no 7d	BSF	342	375	197	359	199	124	125	84	174
7 eu no 7d	FOX	666	546	480	306	194	144	105	67	51
7 eu no 7d	RNG	359	261	178	326	167	84	83	36	45
7 eu no 7d	BRF	46	44	68	72	58	60	68	53	39

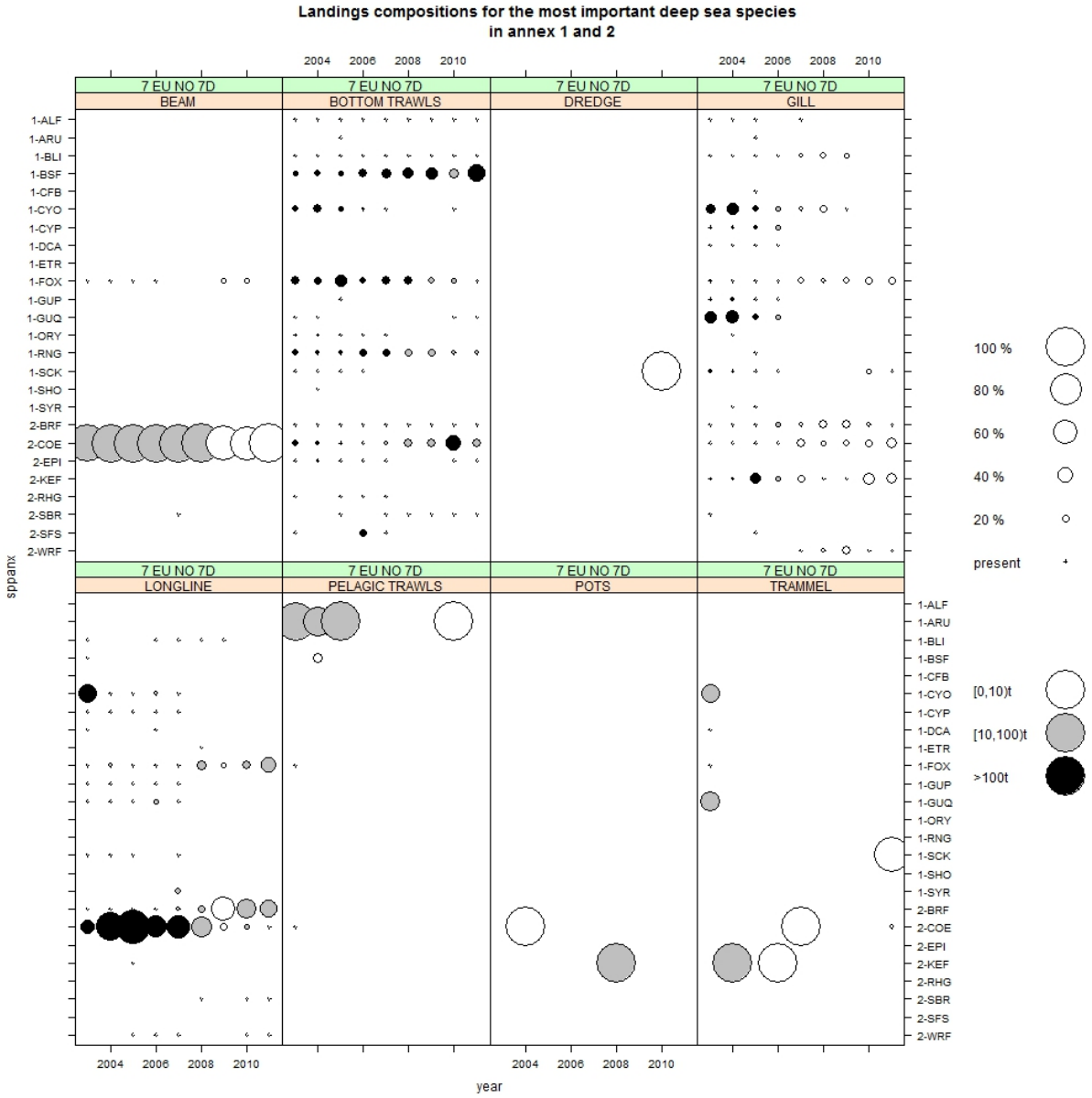


Figure 5.9.2.7.1. Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area VII EU no VIId

Western Waters VII EU no VIId

The top five demersal species landed from this area are detailed within Table 5.9.2.7.2 with more general composition given in Figure 5.9.2.7.2. *Nephrops* (NEP) accounts for the greatest landings, followed closely by anglerfish (ANF), which would have previously been ranked first in the earlier part of the time series. Haddock (HAD) and whiting (WHG), also within the top five have shown increased landings in the last three years, while hake (HKE) landings have fluctuated greatly since 2005.

Crab and Scallop landings from the area are detailed in Table 5.9.2.7.3. This shows that the greatest landings of scallops (SCE) by far originate from dredges and that there has been a general increase until 2009. After a slight dip in 2010 landings increased again in 2011. Beam trawls also land scallops, although at a much lower level. Edible crabs (CRE) are landed by a wide variety of gears, with pots yielding the greatest

landings. 2011 had the highest landings in the time series at 8300t. Gill nets generate the largest spider crab (SCR) landings, around 1300t in 2011, with contributions also coming from trammel nets and pots.

Horse mackerel (JAX) tops the pelagic species landings, having shown greatly increased landings in the last three years (Table 5.9.2.7.4). Mackerel showed a similar increased trend in 2009 and 2010, but landings in 2011 were similar to 2007 and 2008. Blue whiting landings peaked in 2007 and have been declining since. 2011 landings are only 10% of those recorded in 2009 and 2010. Herring landings have been stable through the time series. 2011 also saw a huge increase of landings of albacore tuna, double the 2009 figure and five times greater than the 2010 level.

Table 5.9.2.7.2. Top demersal species landed (tonnes) (average 2009-2011) within Area VII EU no VIId, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
7 EU NO 7D	NEP	L	12128	12069	12912	12732	16228	17697	15118	15676	15304
7 EU NO 7D	NEP	D	NA	NA	NA	NA	NA	NA	NA	281	2515
7 EU NO 7D	ANF	L	15083	16791	16709	16063	18038	15631	15906	11947	17576
7 EU NO 7D	ANF	D	577	298	482	84	498	481	1742	849	1703
7 EU NO 7D	HAD	L	6336	7098	5568	4710	6057	6383	7707	9723	13306
7 EU NO 7D	HAD	D	9022	8888	5253	5306	3796	5415	11576	14542	14242
7 EU NO 7D	WHG	L	10440	9407	12131	9119	8722	5498	6084	8755	9021
7 EU NO 7D	WHG	D	3820	9790	6406	2809	13407	5091	9081	4361	3798
7 EU NO 7D	HKE	L	4549	4736	4766	4516	4756	4490	4064	7711	10489
7 EU NO 7D	HKE	D	863	704	2437	882	1825	818	1992	1178	818

Table 5.9.2.7.3. Scallop and crab species by gear landed within Area VII EU no VIId, 2003-2011. Values are landings in tonnes.

area	gear	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
7 EU NO 7D	BEAM	CRE	40	51	37	43	114	69	56	43	63
		SCE	275	285	201	190	292	182	148	161	128
		SCR	1	1		1	2	3	2	3	4
	BOTTOM T	CRE	167	109	165	139	100	80	135	47	40
		KEF	2								
		SCE	86	125	152	108	184	127	143	98	567
		SCR	42	38	34	37	26	19	24	18	25
	DREDGE	CRE	4	7	11	2	2	2	2		1
		SCE	13963	19722	19290	17216	18623	18925	22207	17485	20556
		SCR	4	22	27	22	19	12	12	25	75
	GILL	CRE	344	331	283	263	411	236	252	132	219
		KEF	224	112	291	16	32	27	11	6	4
		SCE	6	8	10	13	7	47	47	29	35
		SCR	1699	2347	2032	1617	1953	1955	1958	1092	1315
	LONGLINE	CRE	1		1		5	4	6	3	3
		KEF			14						
		SCE		1	1	1					1
		SCR			1		1				
	NONE	CRE		1		3					3
		SCE	4		33	4	1	12	12		
		SCR	3	6	3	74					
	PELAGIC TF	CRE	1	6							
	POTS	CRE	6739	6406	5410	5384	7466	6222	6427	7888	8347
		KEF	6	3	5	71	147	73	57	66	114
		SCE	1	16	10	4	3	6	5	74	127
		SCR	488	578	528	505	518	339	311	385	402
	TRAMMEL	CRE	245	270	280	337	462	366	355	247	448
		KEF		11		3					
		SCE			4	2	5	2	2	5	13
		SCR	190	244	215	246	283	208	211	315	321

Table 5.9.2.7.4. Top pelagic species landed (tonnes) (average 2009-2011) within Area VII EU no VIId, 2003-2011.

area	**species**	**Type**	2003	2004	2005	2006	2007	2008	2009	2010	2011
7 EU NO 7D	JAX	L	33589	39657	39485	35946	21952	30575	90274	120219	95284
7 EU NO 7D	MAC	L	40940	48840	39564	18625	34941	38656	65506	82065	37933
7 EU NO 7D	WHB	L	23813	16085	85621	73753	113551	73139	34644	33926	2930
7 EU NO 7D	HER	L	16672	16992	18279	16226	15017	13423	12099	14379	17583
7 EU NO 7D	ALB	L	1833	996	2206	210	1597	2245	2535	954	5549
7 EU NO 7D	BET	L			0		3			0	2
7 EU NO 7D	SWO	L	63	25	30	3	9	4	3	4	7
7 EU NO 7D	YFT	L	0				0		0	12	29

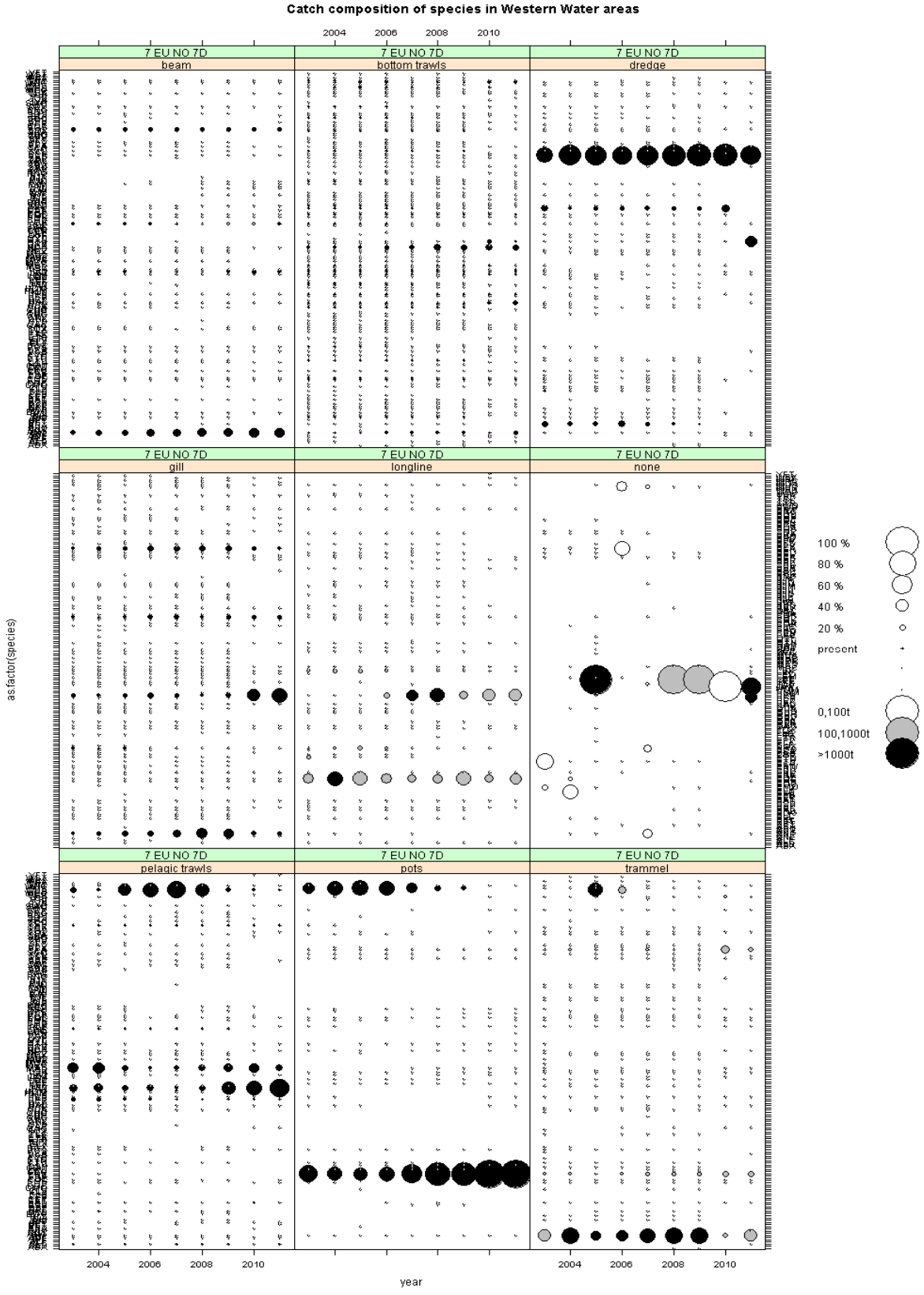


Table 5.9.2.7.2. Landings composition by gear (countries combined) Western waters area VII EU excluding VIId, 2003-2011. Size of circles represents relative contribution to landings, shading indicates quantity.

Deepwater VII non-EU

No information reported after 2004.

Western Waters VII non-EU

Very few demersal species are landed from this area (Table 5.9.2.5.5). Average 2009-2011 landings indicate that in 2010 only 1t of hake (HKE) was reported from French pelagic trawl gear and in 2011 4t from Netherlands pelagic trawl.

There are no reported landings of scallops or crabs within this area.

Blue whiting (WHB) historically is the only pelagic species with reported landings from the area (Table 5.9.2.5.7). It should be noted that blue whiting landings (2003, 2009 and 2010) do not match the occurrence of pelagic trawl effort which also occurs in 2004 and 2005, indicating an issue in the submitted data. In 2011 Netherlands reported landings of 2000t of horse mackerel. In 2010 and 2011 small amounts of albacore tuna were reported by France and Scotland.

Table 5.9.2.5.5. Top demersal species landed (tonnes) (average 2009-2011) within Area VII non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
7 NON EU	HKE	L	NA	NA	NA	NA	NA	NA	NA	1	4
7 NON EU	COE	L	3037	NA	NA	NA	NA	NA	NA	NA	

Table 5.9.2.5.6. Scallop and crab species by gear landed within Area VII non-EU, 2003-2011. Values are landings in tonnes.

No reported landings.

Table 5.9.2.5.7. Top pelagic species landed (tonnes) (average 2009-2011) within Area VII non-EU, 2003-2011.

area	**species**	**Type**	2003	2004	2005	2006	2007	2008	2009	2010	2011
7 NON EU	JAX	L									2078
7 NON EU	WHB	L	2515						1712	689	
7 NON EU	BFT	L								1	
7 NON EU	ALB	L								157	47
7 NON EU	SWO	L								2	
7 NON EU	YFT	L								6	

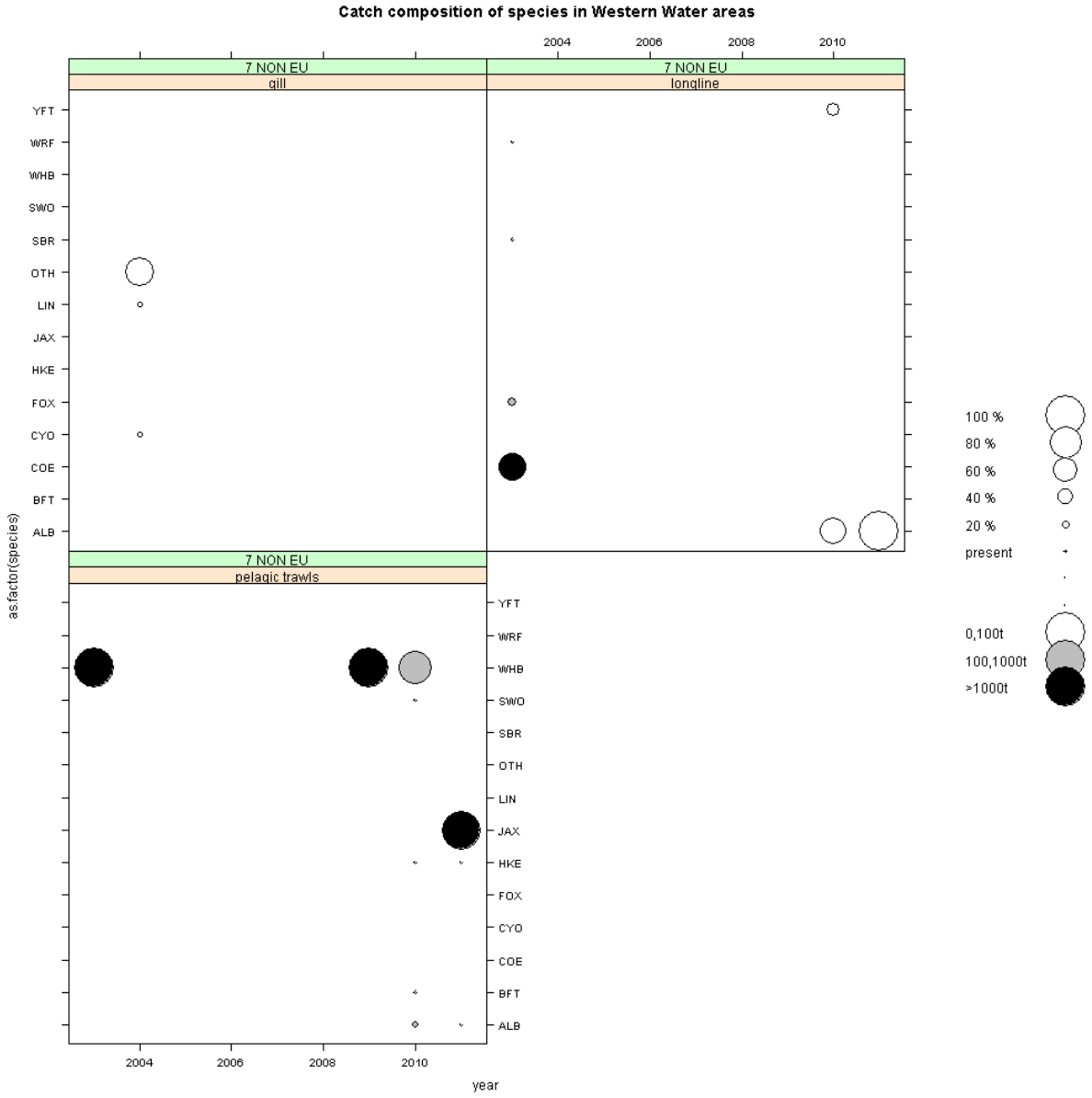


Table 5.9.2.7.3. Landings composition by gear (countries combined) Western waters area VII non-EU, 2003-2011. Size of circles represents relative contribution to landings, shading indicates quantity.

5.9.2.8 Catches in ICES area VIId by fisheries and Member States

Deepwater

The catch data provided are very sparse. In recent years otter trawls were catching small amounts of red seabream, and 2 tonnes of kitefin shark was reported for 2010. Small landings of conger eel, less than 10 tonnes, were reported for longlines in 2008 and 2009. In 2011 small landings of roundnose grenadier and six gill shark were reported from French bottom trawls.

Table 5.9.2.8.1. Top 5 deepwater species landed (t) in ICES Area VIId. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
7d	COE	NA	NA	NA	NA	NA	7	6	NA	NA
7d	SBR	NA	NA	NA	NA	1	10	10	4	1
7d	RNG	NA	NA	NA	NA	NA	NA	NA	NA	2
7d	SBL	NA	NA	NA	NA	NA	NA	NA	NA	2
7d	SCK	NA	NA	NA	NA	NA	NA	NA	2	NA

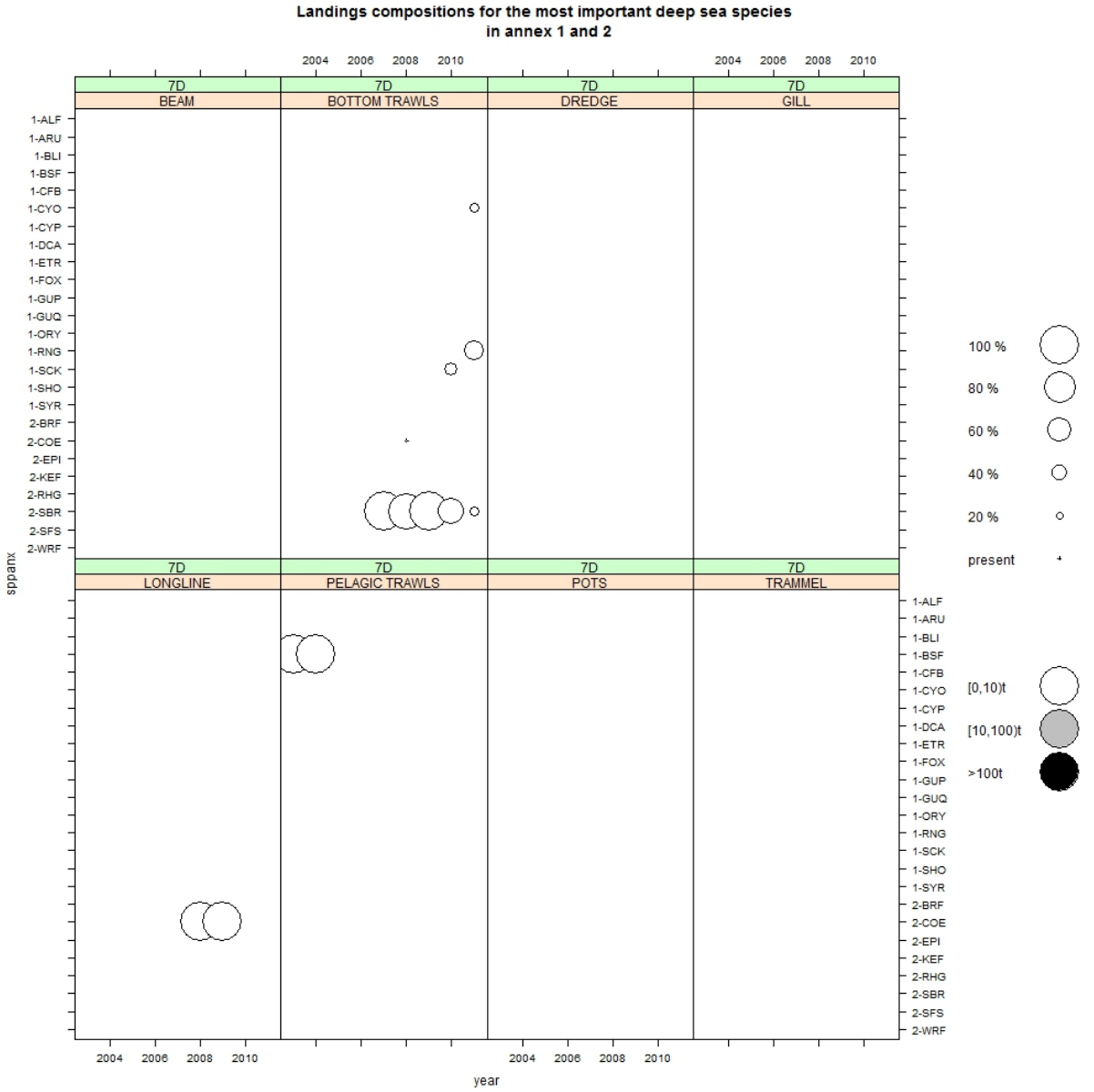


Figure 5.9.2.8.1. Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area VIId

Western Waters

There are a number of different fisheries taking place in this area by a number of different gears showing varying species compositions as seen in Figure 5.9.2.8.2. In relation to the top demersal species (Table 5.9.2.8.2) whiting (WHG) contributes the greatest quantities and having been in decline for a number of years landings have increased over the last two years. Sole (SOL) and plaice (PLE) are currently landed in

similar quantities following a decline in sole landings. Around 1000t of Cod (COD) is landed from the area, with a slight decline in most recent years. Similar landings of Dab are also produced.

Table 5.9.2.8.3 details scallop and crab landings from the area, showing large and increasing landings volumes of scallops (SCE) made by dredgers. In recent years bottom trawling for scallops took approximately 200t of scallops, but this has begun to decline. There is also a smaller pot fishery for edible crabs, after a dip in 2007 and 2008 landings have begun to increase again. Pot fishing for spider crabs has been in decline since the start of the time series.

Pelagic landings of horse mackerel (JAX) have increased greatly since 2009, making this species the top landed pelagic species within VIId (Table 5.9.2.8.4). Mackerel (MAC) landings have been in decline throughout the time period, although landings increased in 2011. Herring landings have remained at high levels since the start.

Table 5.9.2.8.2. Top demersal species landed (tonnes) (average 2009-2011) within Area VIId, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
7D	WHG	L	6364	4825	4502	3511	3051	3893	3992	5491	6296
7D	WHG	D	1740	190	13	24	79	283	283	18724	3944
7D	SOL	L	5487	4878	4020	4142	4414	3949	4006	2698	3224
7D	SOL	D	2	123	25	93	111	70	172	160	343
7D	PLE	L	3878	3611	3065	2787	3144	2987	2677	2849	3129
7D	PLE	D	229	2469	128	329	146	343	278	168341	1307
7D	DAB	L	1032	945	903	945	903	797	863	981	1229
7D	DAB	D	939	885	209	288	1046	1291	191	91747	1283
7D	COD	L	1513	768	889	1046	1550	1090	1039	1007	982
7D	COD	D	NA	10	2	19	29	91	8	55	703

Table 5.9.2.8.3. Scallop and crab species by gear landed (t) within Area VIId, 2003-2011. Values are landings in tonnes.

area	gear	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
7D	BEAM	CRE	3	4	9	1	3	6	4	1	1
		SCE	42	23	18	49	48	42	48	24	65
		SCR	6	3	1	1					
	BOTTOM T	CRE	2	2	2	2	4	3	2	2	4
		SCE	68	46	101	101	70	208	208	163	143
		SCR	3	1	1	2		1	1	2	2
	DREDGE	CRE	1					1	1		
		SCE	10566	13382	16532	15172	14173	14016	18122	18864	21976
		SCR					3			19	35
	GILL	CRE	1	2	8		2			2	5
		SCE									1
		SCR		3		1		2	2	17	
	LONGLINE	CRE	11		1						
		SCE	8	2							
		SCR			3						
	NONE	CRE	1								
		SCE	2	21	1				13	13	
		SCR	4								
	POTS	CRE	682	766	790	750	497	486	460	572	636
		SCE				1		7	7	1	
		SCR	122	73	79	56	64	13	11	38	21
	TRAMMEL	CRE	7	12	17	22	13	11	11	17	65
		SCE				9	7	15	15	24	25
		SCR	1	8	16	10	4	1	1	8	38

Table 5.9.2.8.4. Top pelagic species landed (tonnes) (average 2009-2011) within Area VIId, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
7D	JAX	L	1324	3170	2933	1701	3988	1851	18929	21181	19099
7D	HER	L	21274	25698	29328	26023	18254	12715	20063	18677	18306
7D	MAC	L	9902	8979	6797	6964	4692	5462	5543	4045	7681
7D	SPR	L	481		10	17		2	2		38
7D	ALB	L				0					31
7D	SWO	L					0				

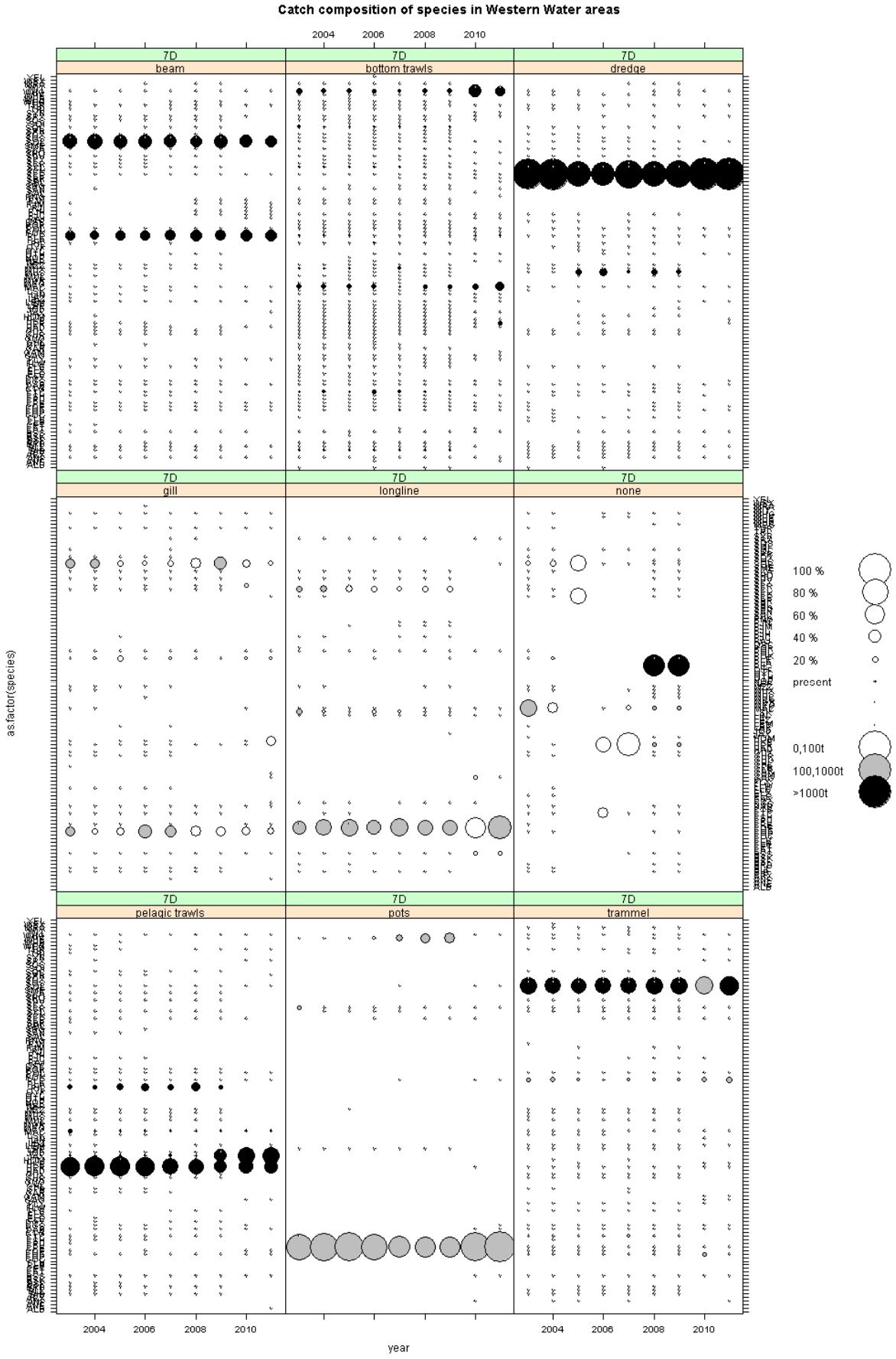

Catch composition of species in Western Water areas
7D
beam
bottom trawls
dredge
gill
longline
none
pelagic trawls
pots
trammel
2004
2006
2008
2010
year
as.factor(species)
100 %
80 %
60 %
40 %
20 %
present
0,100t
100,1000t
>1000t

Figure 5.9.2.8.2 Landings composition by gear (countries combined) Western waters area VIId, 2003-2011. Size of circles represents relative contribution to landings, shading indicates quantity.

5.9.2.9 Catches in the Biologically Sensitive Area by fisheries and Member States

BSA

Western Waters

Catch and catch composition

As in the wider area VII, a variety of fisheries occur within the BSA through the use of different gears. Beam trawling occurs targeting anglerfish (ANF), gillnetting for hake (HKE), dredging for scallops (SCE) and potting for edible crab (CRE). The general species composition by gear is given in Figure 5.9.2.9.1.

Anglerfish are at the top of the list of demersal species based on 2009-2011 average landings. After suffering a 20% drop in landings in 2010 landings in 2011 are back near a time series high. Hake landings had been stable through the time period. However in 2011 Hake landings increased by 50% over the 2010 figure, and were the highest on record at 5600t. Haddock have fluctuated around relatively stable levels over the period. Megrims were quite stable up to 2009 when landings began to increase. In 2010 and 2011 *Nephrops* landings have begun to decline from reasonably high levels.

Table 5.9.2.9.2 details scallop and crab landings from the BSA. In this area scallop and crab landings are far lower than the wider VII EU area. Scallops (SCE) from dredging were stable until 2007 but have shown an increasing trend in recent years. Landings in 2011 rose to 830t compared to 470t in 2010. Edible crabs (CRE) landed from pots are also showing an increasing trend. All other gears contribute minimal landings.

In relation to pelagic species, mackerel (MAC) tops the pelagic species ranking (Table 5.9.2.9.3). Having recorded increased landings in 2009 and 2010 landings in 2011 dropped by 60%. Horse mackerel (JAX) had previously been relatively stable (~10000t) until extremely large landings occurred in 2009 (>40000t). Landings subsequently fell by roughly 30% in 2010 and 2011, but are still far above previous levels. Herring landings have declined throughout the time series and are now approximately 40% of the 2003 level. Sprat landings fluctuate through the years. Landings of albacore tuna were quite low but French pelagic data recorded 386t in 2011.

Table 5.9.2.9.1. Top demersal species landed (tonnes) (average 2009-2011) within the BSA, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
BSA	ANF	L	5323	4633	4082	4219	5163	4622	5094	3980	4980
BSA	HKE	L	3543	4168	3699	3790	4154	3475	3656	3512	5597
BSA	HAD	L	3669	3163	2958	2563	3104	2865	3980	3468	3969
BSA	LEZ	L	2290	2123	2268	2016	2188	2258	3081	4354	3772
BSA	NEP	L	4928	3740	3806	3676	4170	4823	4700	3077	2434

Table 5.9.2.9.2. Scallop and crab species by gear landed within the BSA, 2003-2011. Values are landings in tonnes.

area	gear	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
BSA	BEAM	CRE	2	2	1	4	6		1		
		SCE	21	19	32	30	32	19	6	12	3
	BOTTOM T	CRE	89	45	117	31	28	17	26	16	8
		KEF	2								
		SCE	4	2	2	1	3	1	1	6	2
		SCR		5		1					
	DREDGE	CRE	1	5	7						
		SCE	144	104	162	82	135	350	462	470	831
	GILL	CRE	93	9	14	18	12	16	42	13	9
		KEF	1	11			2				
		SCE	3								
		SCR	6	11	12	1	1	29	24	4	9
	LONGLINE	CRE					2	4	6		
	POTS	CRE	264	343	635	163	347	364	348	571	481
		KEF				9	3				
		SCE								1	
		SCR		3		3	15	46	42	29	24
	TRAMMEL	CRE	3			4	2	2	2	9	4
		SCR							1	1	1

Table 5.9.2.9.3. Top pelagic species landed (tonnes) (average 2009-2011) within the BSA, 2003-2011.

area	**species**	**Type**	2003	2004	2005	2006	2007	2008	2009	2010	2011
BSA	MAC	L	17757	29707	22985	12602	24788	27851	42127	41026	17312
BSA	JAX	L	8260	10139	10039	9347	5822	10866	40236	28192	31828
BSA	HER	L	10322	8430	6086	6506	7423	6889	5832	6440	4390
BSA	SPR	L	732	3597	4191	837	3520	1313	3639	2479	1651
BSA	ALB	L	196	57	290	0	26	14	7	9	386
BSA	BET	L									1
BSA	SWO	L	4	2	5		0	0	0		1

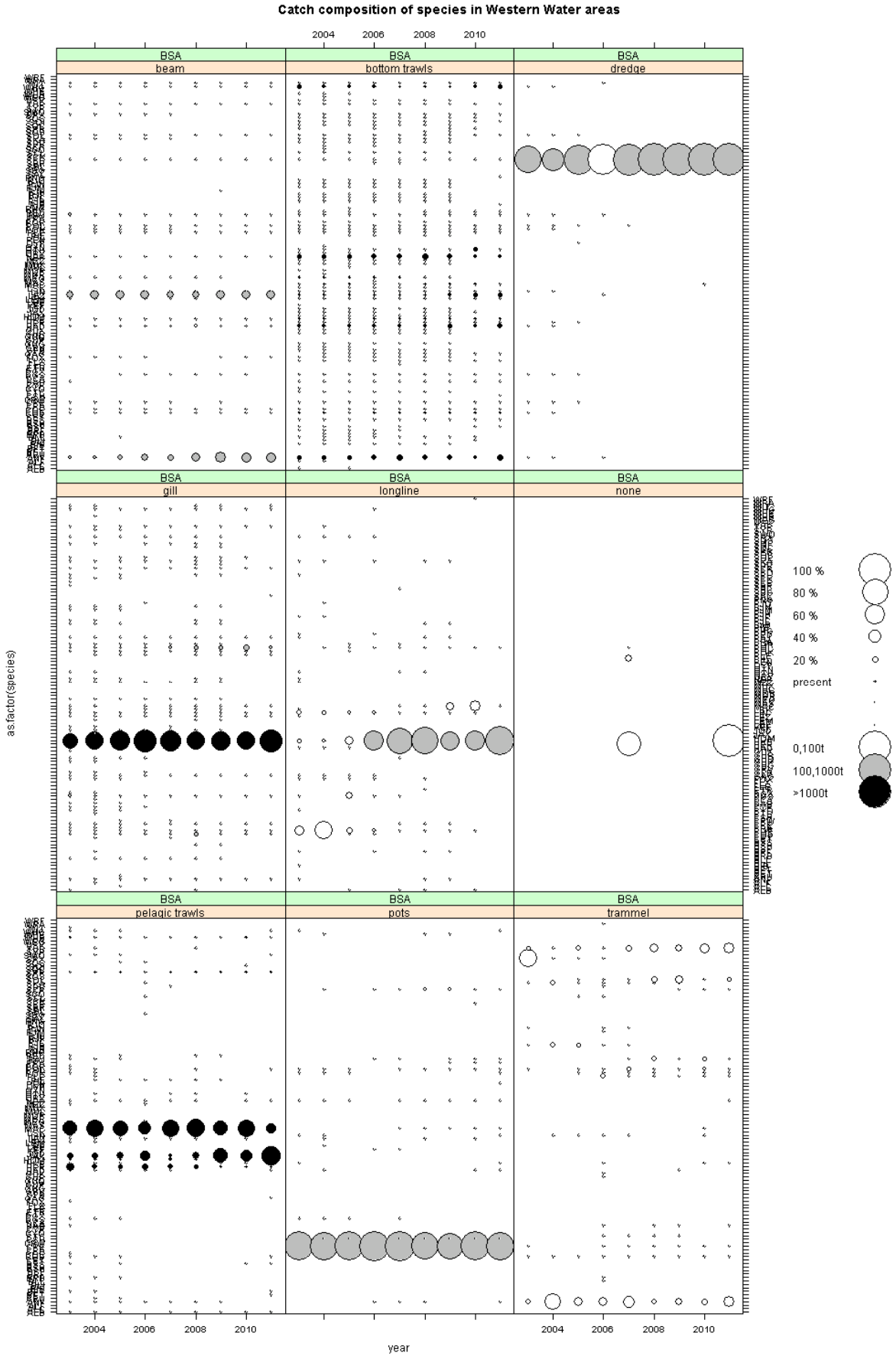

Catch composition of species in Western Water areas
BSA
beam
bottom trawls
dredge
gill
longline
none
pelagic trawls
pots
trammel
2004
2006
2008
2010
year
as.factor(species)
100 %
80 %
60 %
40 %
20 %
present
0,100t
100,1000t
>1000t

Figure 5.9.2.9.1. Landings composition by gear (countries combined) Western waters area BSA. Size of circles represents relative contribution to landings, shading indicates quantity.

5.9.2.10 Catches in ICES area VIII by fisheries and Member States

Deepwater VIII EU

Two different bottom trawl fisheries are carried out. The French trawl fishery mainly lands black scabbard with small amounts of roundnose grenadier. Blue mouth redfish is a bycatch species in this fishery. Spanish data hasn't been submitted yet but Spain is known to conduct a shallower trawl fishery that takes deepwater shark, such as blackmouth dogfish, and greater forkbeard. Small amounts of conger eel and alfonsinos are also landed by bottom trawls in this area.

There is a small, but consistent, Spanish gill net fishery landing alfonsinos. Landings have been low but showed an increase in 2010. There is a Scottish fishery landing blue mouth redfish but apart from one large catch in 2008, landings have been small. Small amounts of conger eel and blue ling are also landed, but none were recorded for 2011.

Conger eel provides the biggest component of the landings for the UK longline fishery. These landings remained relatively constant throughout the time series, but declined 2010 and 2011. Spanish catches of Portuguese dogfish have decreased from their highest level in 2006. Spain landed large catches, > 100 tonnes, of blue mouth redfish in 2009. Low amounts of greater forkbeard are landed by both Spain and the UK although no landings were recorded after 2009. Other species landed historically include blackmouth dogfish, knifetooth dogfish and wreckfish.

French pelagic trawls land small amounts, less than 10 tonnes, of black scabbard, but have only declared landings once in the last three years. Spain landed blackmouth dogfish in 2008 and 2009.

Table 5.9.2.10.1. Top 5 deepwater species landed (t) in ICES Area VIII EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 eu	COE	98	143	82	75	71	90	168	29	46
8 eu	FOX	22	31	19	9	14	155	75	NA	NA
8 eu	SHO	37	27	16	19	34	43	69	NA	NA
8 eu	BRF	2	8	27	70	16	48	144	6	42
8 eu	WRF	1	NA	1	1	2	4	61	17	14

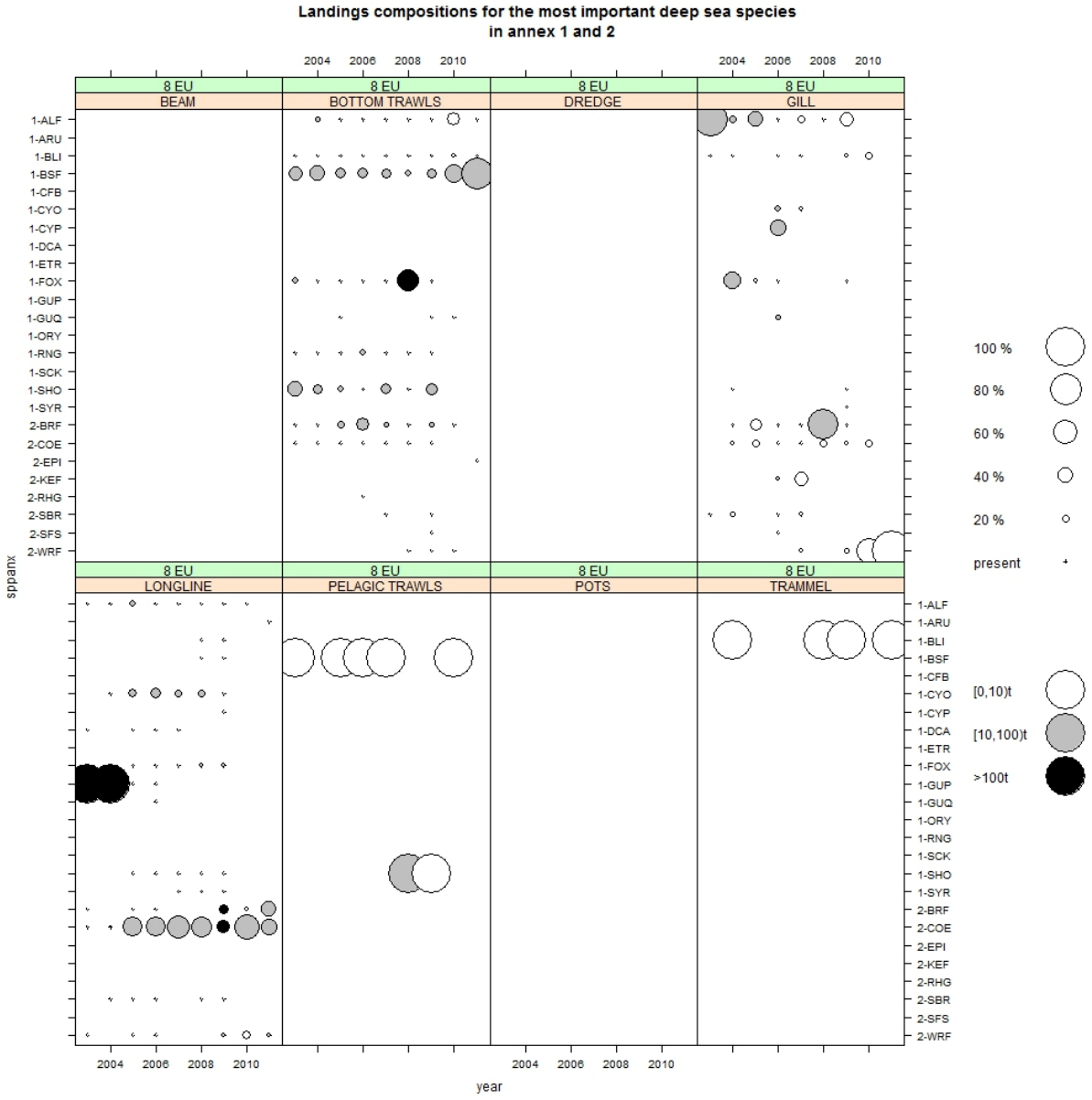


Figure 5.9.2.10.1 Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area VIII EU

Western Waters VIII EU

Note: a discussion of the demersal and pelagic data can't be undertaken due to discrepancies in the data submitted by Portugal.

Details of scallop and crab landings from this area are given in Table 5.9.2.10.3. Scallops are primarily landed by dredge. Having been quite stable through the time series landings have declined dramatically in 2010 and 2011. The main landings of edible crab (CRE) are from pots, with some landings coming from bottom trawls. Crab landings from pots fell by 80% in 2008 and 2009, but in 2010 and 2011 are over 1100t. Trammel nets provide landings of spider crabs (SCR), as do bottom trawls and gill nets. However landings from all three methods are in decline.

Table 5.9.2.10.2. Top demersal species landed (tonnes) (average 2009-2011) within Area VIII EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 EU	HKE	L	6140	5946	9182	9767	25048	26179	19991	15428	15316
8 EU	HKE	D	NA	244	692	2496	3099	3244	2579	1433	12809
8 EU	ANF	L	5389	6560	7291	7537	10509	8266	8267	2175	6360
8 EU	ANF	D	NA	NA	NA	NA	NA	NA	NA	76	347
8 EU	NEP	L	2496	2600	3225	3010	2936	2844	2852	1337	2189
8 EU	NEP	D	NA	NA	NA	NA	NA	NA	NA	13097	NA
8 EU	WHG	L	798	777	954	866	1433	1684	1187	2817	2113
8 EU	WHG	D	NA	NA	NA	NA	NA	NA	NA	33527	11
8 EU	COE	L	1193	1320	1230	1514	3191	3178	1813	1050	1352
8 EU	COE	D	NA	NA	NA	NA	NA	NA	NA	541	326

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.10.3. Scallop and crab species by gear landed within Area VIII EU, 2003-2011. Values are landings in tonnes.

area	gear	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 EU	BEAM	CRE		1	2						
		SCE					1				
		SCR	1	1							
	BOTTOM T	CRE	139	181	194	166	262	238	234	147	68
		SCE	22	19	17	14	16	23	21	4	11
		SCR	234	247	266	285	233	203	201	45	32
	DREDGE	SCE	516	509	628	616	705	608	593	146	167
		SCR	1	1	1	1	1	3	2	1	
	GILL	CRE	36	24	35	23	11	13	12	11	1
		KEF				23	7				
		SCE			7		3				
		SCR	112	175	193	176	87	56	50	25	33
	LONGLINE	CRE			2	1					2
		SCE		1		1					
		SCR			1	1					
	NONE	CRE		1	1	1					
		SCE	2	4	7		2	3	3		2
		SCR			1	5					
	PELAGIC TF	CRE						1	1		
		SCR	1				1	1	1		
	POTS	CRE	885	1084	754	755	556	89	89	1315	1162
		KEF				34	37	27	9	11	12
		SCE									3
		SCR	36	61	3	16	5	2	2	84	55
	TRAMMEL	CRE	22	61	32	59	61	5	5	49	115
		SCE				2	1	1	1	2	
		SCR	175	218	255	406	386	322	322	91	89

Table 5.9.2.10.4. Top pelagic species landed (tonnes) (average 2009-2011) within Area VIII EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 EU	MAC	L	26107	34360	45769	67923	482268	603493	1021712	1705220	2255061
8 EU	JAX	L	67778	29423	35974	313612	1589345	1704021	951513	711745	906568
8 EU	WHB	L	17852	16455	15292	15137	42839	105078	49668	23288	21073
8 EU	ANE	L	3117	5633	205	910	97			1922	1884
8 EU	ALB	L	4952	3784	10151	13064	7989	3634	1036	265	186
8 EU	BET	L	59	16	324	50	320	2	4	0	0
8 EU	SKJ	L	7	4	1	9	0	0	0		
8 EU	SWO	L	34	7	78	68	38	11	2	6	2
8 EU	YFT	L			27		12			3	

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

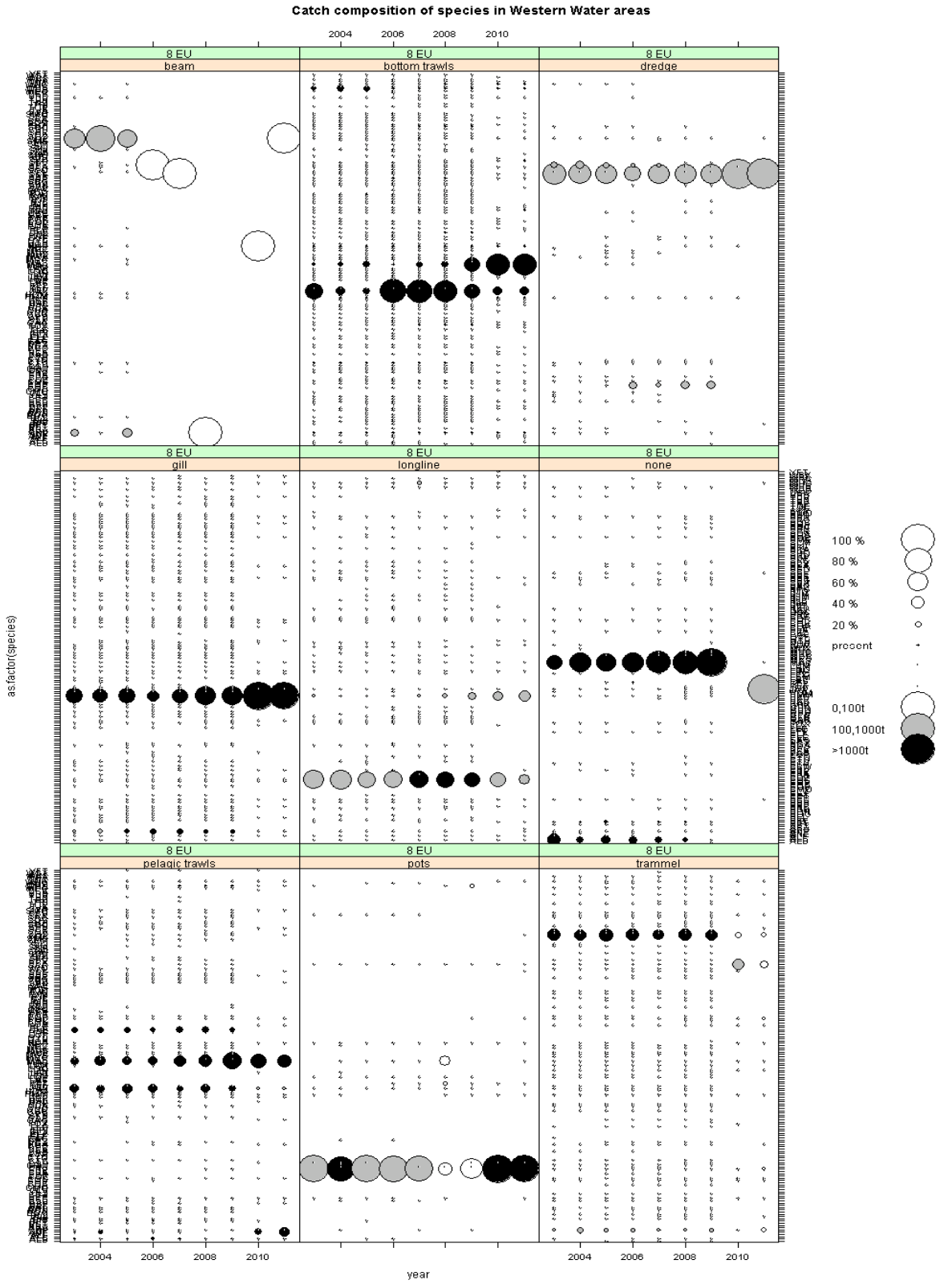


Figure 5.9.2.10.2. Landings composition by gear (countries combined) Western waters area VIII EU. Size of circles represents relative contribution to landings, shading indicates quantity. Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

Deepwater VIII non-EU

No information reported after 2006

Table 5.9.2.10.5 Top 5 deepwater species landed (t) in ICES Area VII EU. The ranking is based according to the average of the landings of the last three years of the time series.

EU and non-EU waters, 5 most important (in weight landed) Deep Sea species

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 non eu	CMO	NA	NA	NA	4	NA	NA	NA	NA	NA
8 non eu	CYO	NA	NA	NA	1	NA	NA	NA	NA	NA
8 non eu	CYP	NA	NA	NA	4	NA	NA	NA	NA	NA
8 non eu	DCA	NA	NA	NA	1	NA	NA	NA	NA	NA

Western Waters VIII non-EU

Note: a discussion of the pelagic data can't be undertaken due to discrepancies in the data submitted by Portugal.

No demersal species landings were reported between 2006 and 2010 bar 1t of *Crangon* by France in 2010. In 2011 17t of hake was reported for French bottom trawls as well as small amounts of anglerfish, megrim and haddock (Table 5.9.2.10.6).

No scallops or crabs landings were reported (Table 5.9.2.10.7).

Minimal pelagic landings (horse mackerel; JAX) occurred in 2006 (Table 5.9.2.10.8).

Table 5.9.2.10.6. Top demersal species landed (tonnes) (average 2009-2011) within Area VIII non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 NON EU	HKE	L	NA	NA	NA	15	NA	NA	NA	NA	17
8 NON EU	ANF	L	NA	NA	NA	NA	NA	NA	NA	NA	6
8 NON EU	LEZ	L	NA	NA	NA	NA	NA	NA	NA	NA	3
8 NON EU	HAD	L	NA	NA	NA	NA	NA	NA	NA	NA	2
8 NON EU	CSH	L	NA	NA	NA	NA	NA	NA	NA	1	NA

Table 5.9.2.10.7. Scallop and crab species by gear landed within Area VIII non-EU, 2003-2011. Values are landings in tonnes.

No reported landings.

Table 5.9.2.10.8. Top pelagic species landed (tonnes) (average 2009-2011) within Area VIII non-EU, 2003-2011.

area	**species**	**Type**	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 NON EU	ANE	L									22
8 NON EU	JAX	L				68995					
8 NON EU	MAC	L				156					
8 NON EU	WHB	L				412					
8 NON EU	ALB	L								246	389
8 NON EU	SWO	L								0	1
8 NON EU	YFT	L								11	21

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

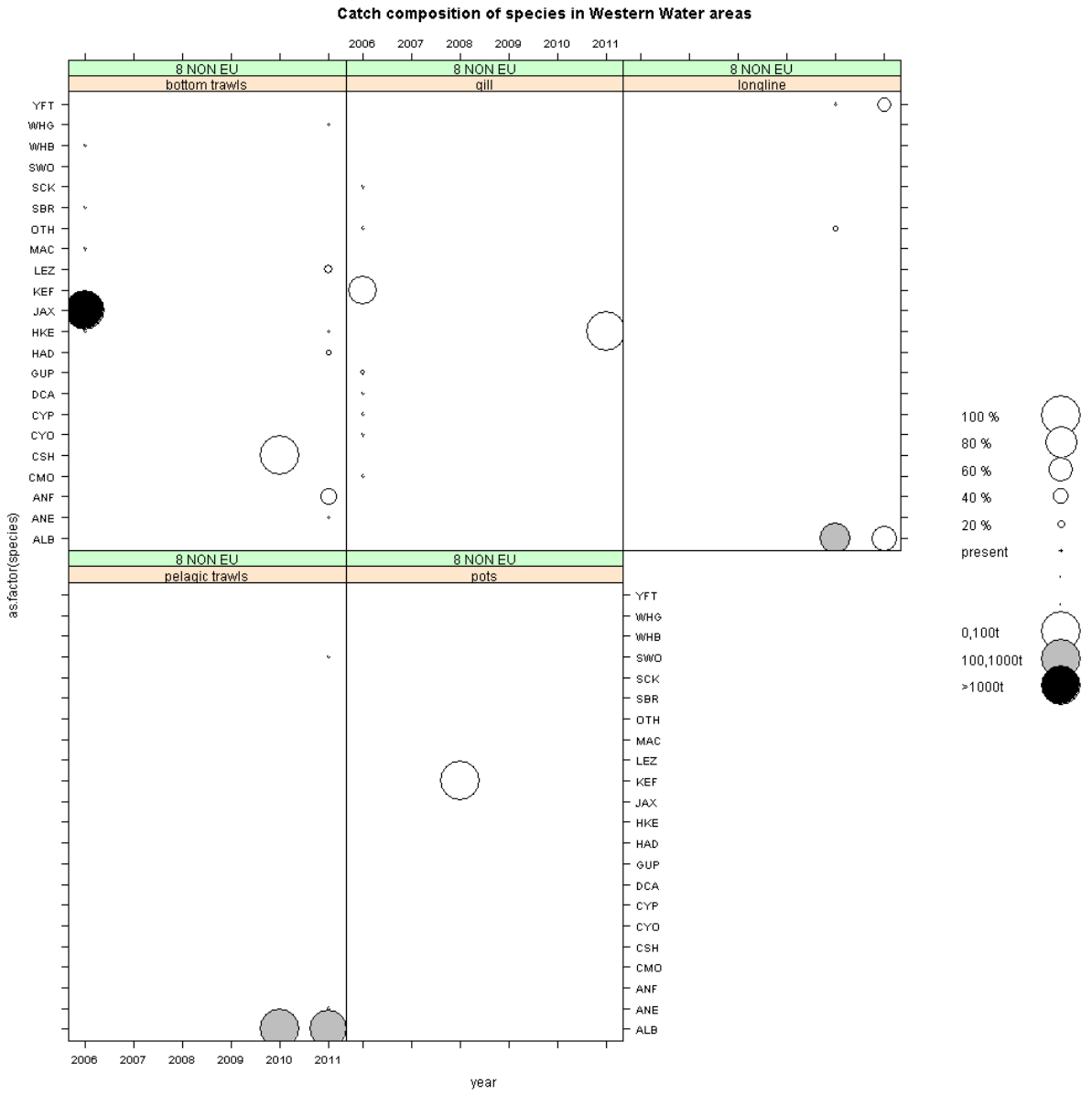


Figure 5.9.2.10.4. Landings composition by gear (countries combined) Western waters area VIII non-EU. Size of circles represents relative contribution to landings, shading indicates quantity. Spanish 2010 landings not included.

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

5.9.2.11 Catches in ICES area IX by fisheries and Member States

Deepwater IX EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.11.1. Top 5 deepwater species landed (t) in ICES Area IX EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 eu	BSF	L	422564	42930	1176737	1937334	2721776	2856279	2702301	2680439	2704486
9 eu	SYR	L	NA	NA	NA	NA	63759	103087	76451	106302	4257
9 eu	CYO	L	222547	278945	302056	291549	106713	44317	19700	2638	37024
9 eu	GUQ	L	134438	73407	196266	316986	161371	61563	15954	1132	36399
9 eu	COE	L	13377	7198	23276	46598	47100	29571	18680	11990	15696

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

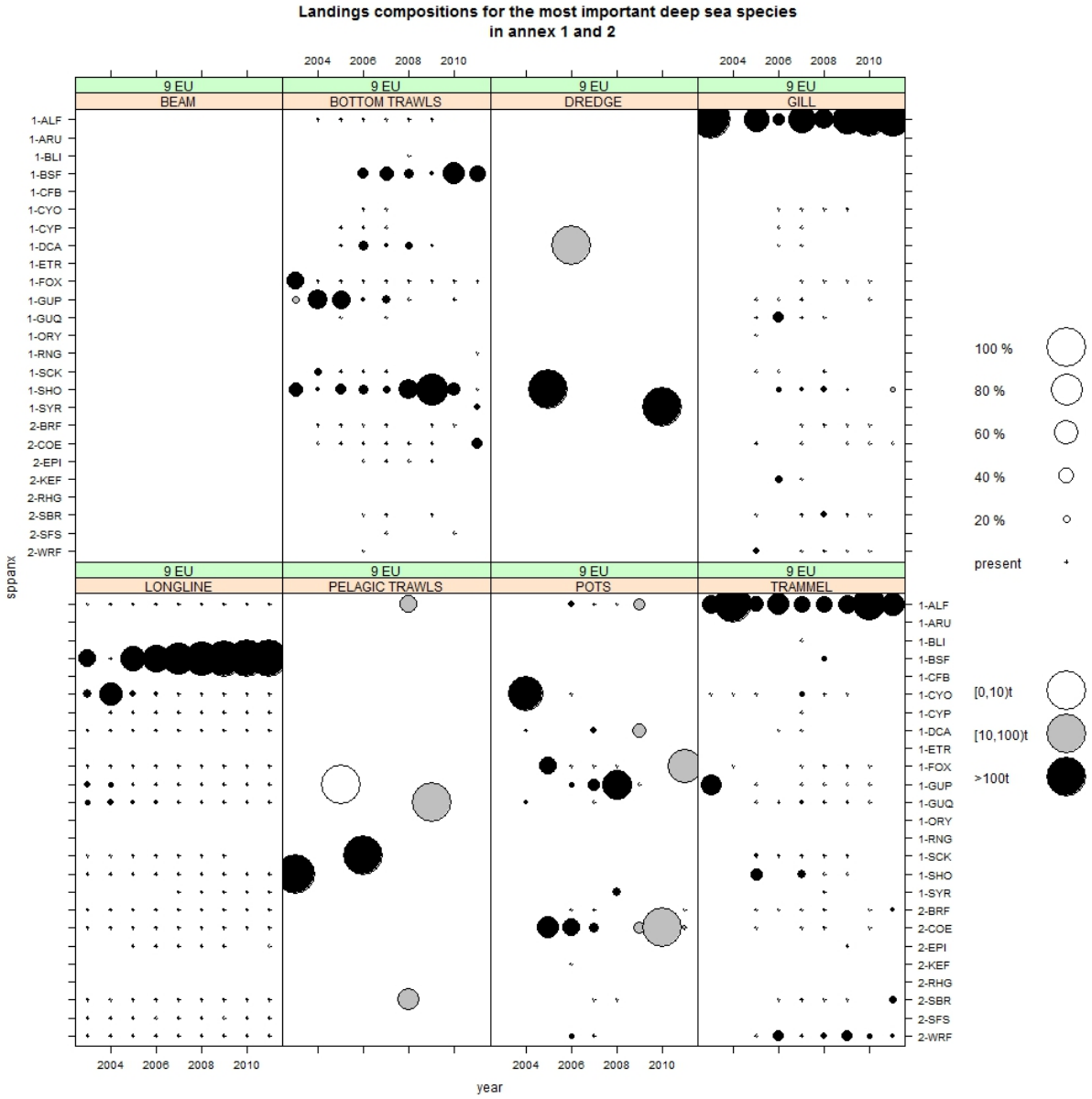


Figure 5.9.2.11.1 Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area IX EU

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

Western Waters IX EU

Note: a discussion of the demersal, shellfish or pelagic data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.11.2. Top demersal species landed (tonnes) (average 2009-2011) within Area IX EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 EU	HKE	L	194046	193869	420331	807839	1532058	1670095	1671315	1607246	1141965
9 EU	RAJ	L	305	724	35707	109729	274653	302450	424465	517343	530912
9 EU	ANF	L	53705	31607	66747	115337	340251	208793	234989	179505	272932
9 EU	COE	L	13512	18604	38875	56250	129602	134580	167100	214839	183743
9 EU	SOL	L	6143	1343	29920	35556	672281	116829	131447	153601	158892

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.11.3. Scallop and crab species by gear landed within Area IX EU, 2003-2011. Values are landings in tonnes.

area	gear	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 EU	BOTTOM TRAWLS	CRE				12		5			
		SCR	5					19		18	
	GILL	CRE				1	4		5		23
		KEF				283	56				
		SCR	33				11		12	93	19
	LONGLINE	CRE			1		2				
		SCR					3				
	POTS	CRE				1	2	5	492	18	1
		KEF				6	25			29	25
		SCR	352		38	16	235	45	84	1 5	66
	TRAMMEL	CRE		87	1	2	6	129	58	16	137
		SCR	22	931	979	5422	7196	1231	2598	3 55	1318

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.11.4. Top pelagic species landed (tonnes) (average 2009-2011) within Area IX EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 EU	JAX	L	3708701	4247869	5103551	7160882	6597342	7103108	6688337	6325807	6065053
9 EU	WHB	L	1177311	1034937	811671	1568666	3363157	3750146	1873014	1330570	594309
9 EU	MAC	L	631278	695311	554967	351137	337154	356658	369895	290311	492566
9 EU	ANE	L	4234	3058	6096	22628	11504	7088	2316	10173	12901
9 EU	ALB	L	13	69	179	55	225	1457	419		
9 EU	BET	L		0		1		295	5	89	550
9 EU	SWO	L	1431	3088	1437	458	1477	1335	567	693	1103
9 EU	YFT	L	0	0	7	0	60	2078	527	3967	3496

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

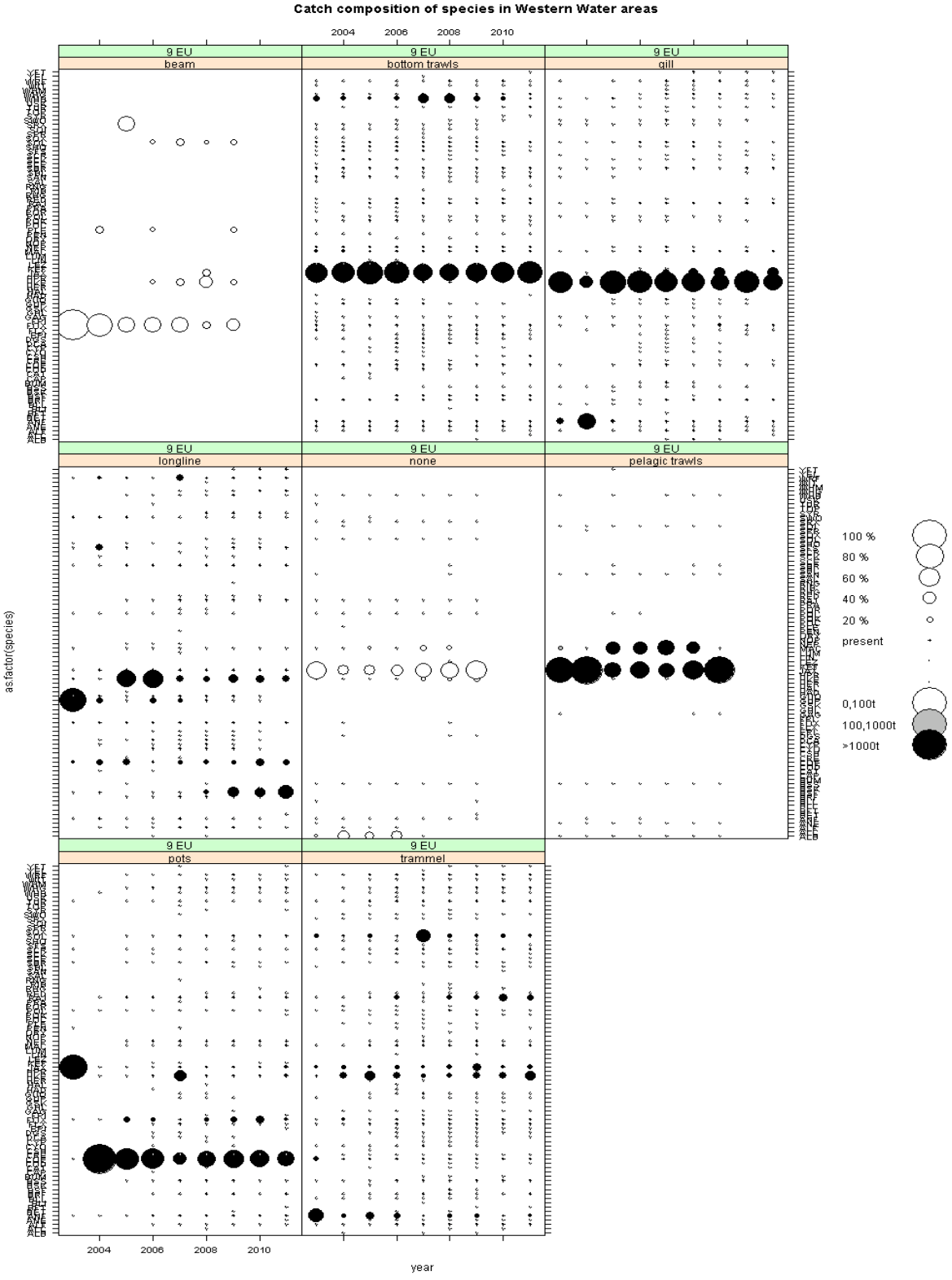


Figure 5.9.2.11.2. Landings composition by gear (countries combined) Western waters area IX EU. Size of circles represents relative contribution to landings, shading indicates quantity. Spanish 2010 landings not included. Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

Deepwater IX non-EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.11.5. Top 5 deepwater species landed (t) in ICES Area IX non-EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 non eu	COE	L	841	12023	9020	4100	9160	10485	11646	5850	11820
9 non eu	SFS	L	5450	4645	1265	NA	90	NA	12500	45	NA
9 non eu	WRF	L	3576	15280	4223	1350	8860	11563	5814	1407	1888
9 non eu	BSF	L	659619	240	638304	NA	NA	450	NA	NA	2800
9 non eu	BRF	L	NA	NA	253	870	2270	2995	4200	125	1550

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

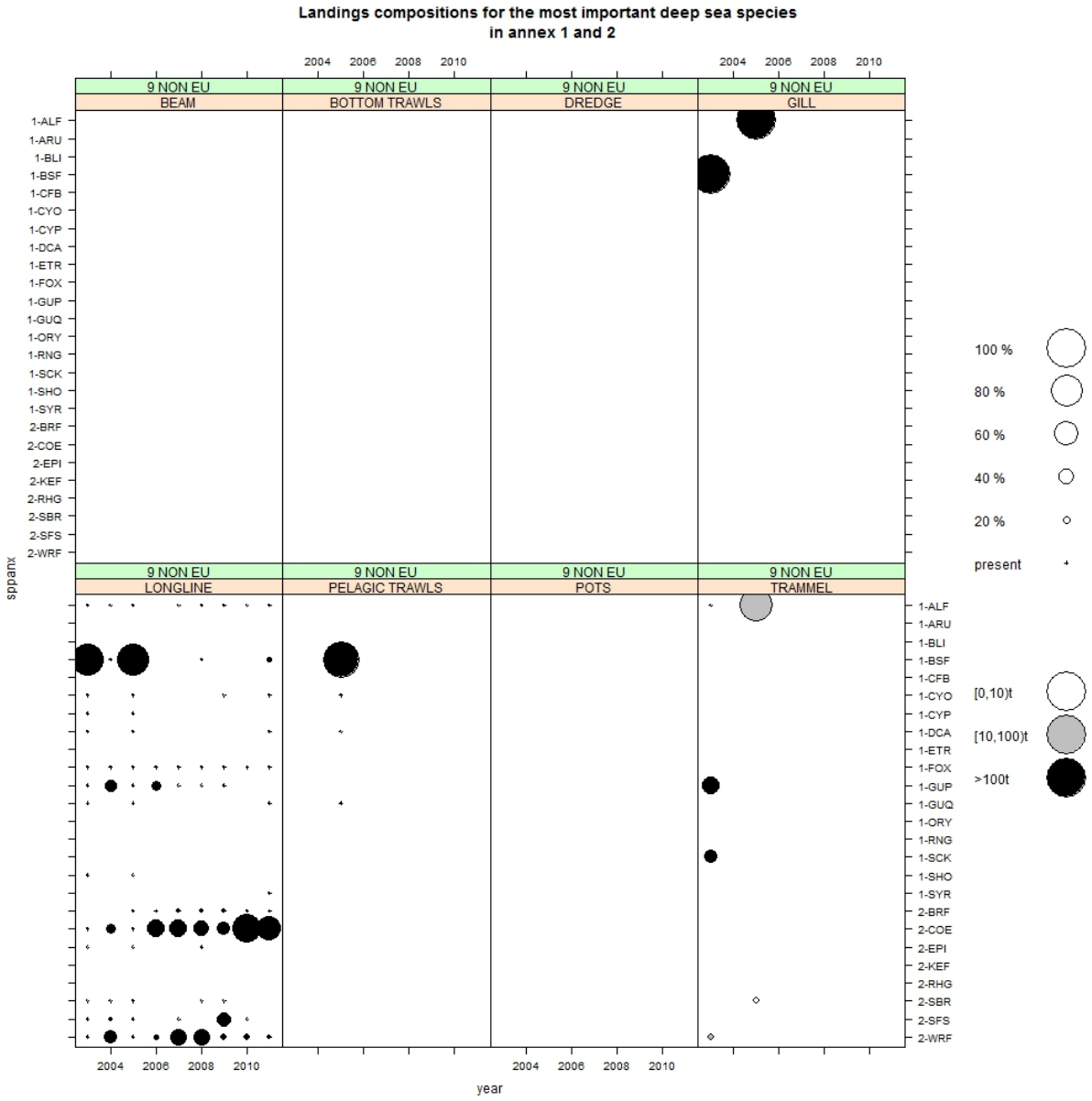


Figure 5.9.2.11.3 Catches of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area IX non-EU

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

Western Waters IX non-EU

Note: a discussion of the demersal, shellfish or pelagic data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.11.6. Top demersal species landed (tonnes) (average 2009-2011) within Area IX non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 NON EU	COE	L	20487	9778	27448	5150	2175	15455	38987	9380	17270
9 NON EU	BRF	L	15	NA	364	1140	750	4930	9296	825	1755
9 NON EU	RAJ	L	887	NA	2298	NA	215	1181	1022	670	215
9 NON EU	GAG	L	NA	NA	NA	NA	NA	NA	NA	NA	200
9 NON EU	POK	L	371	NA	NA	NA	NA	NA	3	NA	NA

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.11.7. Scallop and crab species by gear landed within Area IX non-EU, 2003-2011. Values are landings in tonnes.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 NON EU	SCR	L	270	0	15	0	0	0	0	0	0

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.11.8. Top pelagic species landed (tonnes) (average 2009-2011) within Area IX non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
9 NON EU	JAX	L	4782	26932	59401			400	1280		
9 NON EU	BSK	L	4								
9 NON EU	MAC	L	4862	250	6226						
9 NON EU	POR	L	135		61						
9 NON EU	ALB	L		143							
9 NON EU	BET	L			690						
9 NON EU	SWO	L	2371		3313			160	226		
9 NON EU	YFT	L			6					80	

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

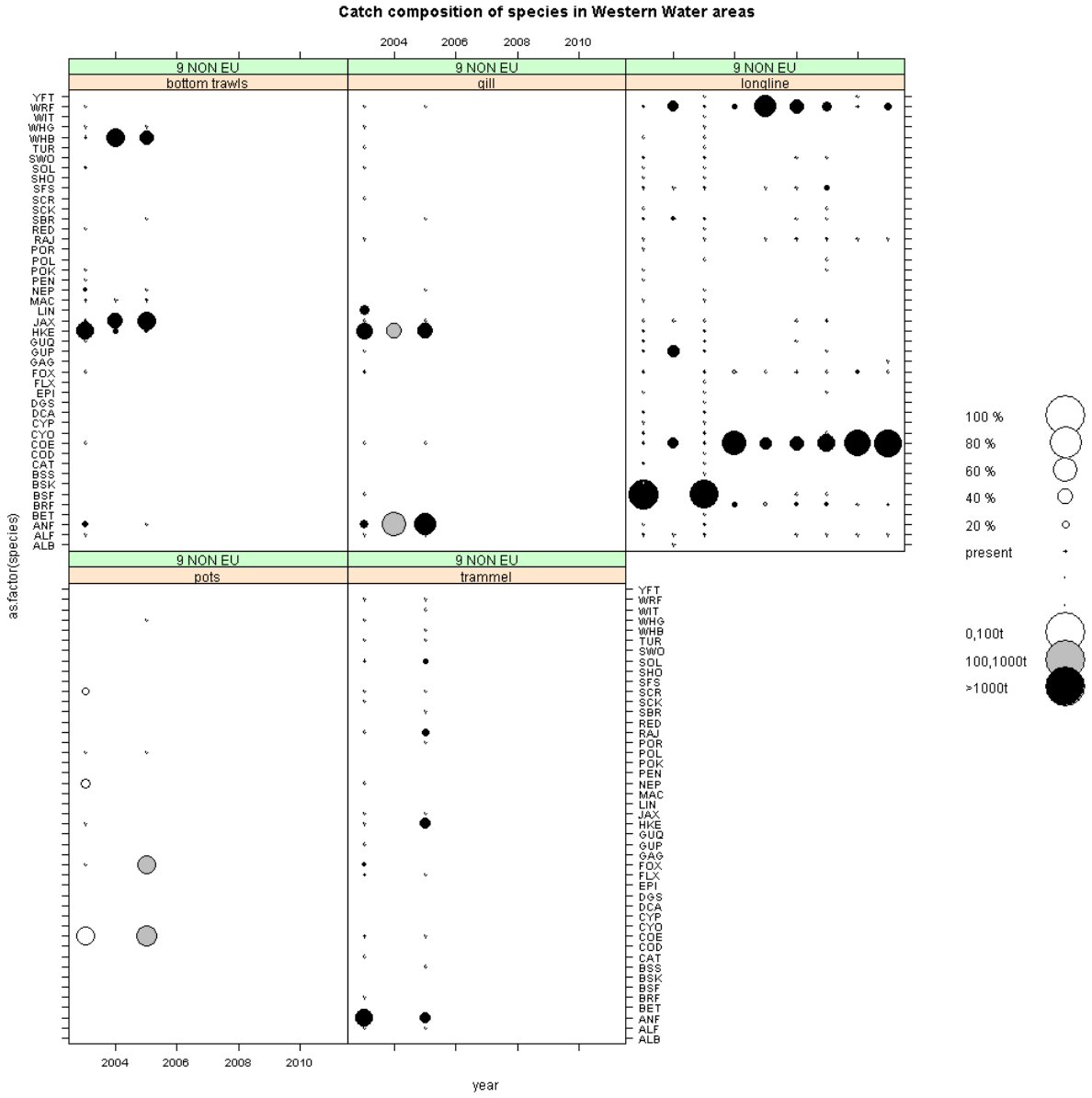


Figure 5.9.2.11.4. Landings composition by gear (countries combined) Western waters area IX non EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

5.9.2.12 Catches in ICES area X by fisheries and Member States

Deepwater X EU

There is little of note in the catches from this region.

Western Waters X EU

There have been no demersal, pelagic, scallop, or crab species landed from this area in recent years.

Deepwater X non-EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.12.1 top 5 deepwater species landed in ICES Area X non-EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
10 non eu	COE	L	NA	NA	415	NA	NA	NA	1474	NA	NA	
10 non eu	FOX	L	NA	NA	8	NA	75	NA	443	NA	NA	
10 non eu	BRF	L	NA	NA	NA	NA	520	NA	59	NA	NA	
10 non eu	ALF	L	NA	NA	333950	NA	465	NA	23	NA	NA	
10 non eu	GUP	L	6400	18980	18780	6630	NA	NA	18	NA	NA	

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

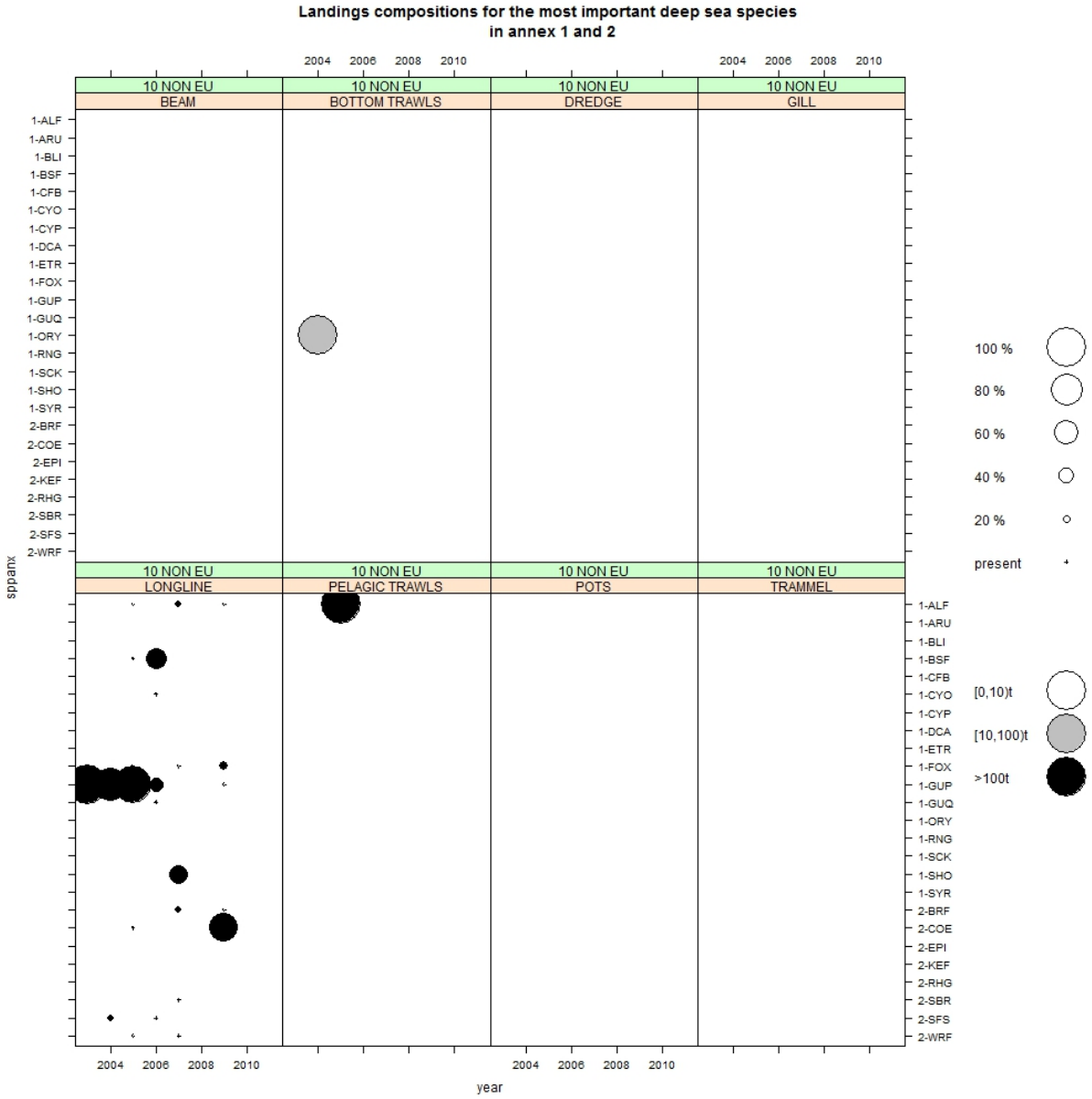


Figure 5.9.2.12.1 Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area X non-EU

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

Western Waters X non-EU

Note: a discussion of the demersal, shellfish or pelagic data can't be undertaken due to discrepancies in the data submitted by Portugal.

No scallop or crab landings were reported for this area.

Table 5.9.2.12.2. Top demersal species landed (tonnes) (average 2009-2011) within Area X non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
10 NON EU	COE	L	NA	NA	415	NA	NA	NA	5863	16	NA
10 NON EU	RAJ	L	NA	NA	NA	NA	NA	NA	785	NA	NA
10 NON EU	BRF	L	NA	NA	NA	NA	NA	NA	260	NA	NA
10 NON EU	ANF	L	NA	NA	NA	NA	NA	NA	32	NA	NA
10 NON EU	NEP	L	NA	NA	NA	NA	NA	NA	1	NA	

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.12.3. Scallop and crab species by gear landed within Area X non-EU, 2003-2011. Values are landings in tonnes.

No data provided

Table 5.9.2.12.4. Top pelagic species landed (tonnes) (average 2009-2011) within Area X non-EU, 2003-2011.

area	**species**	**Type**	2003	2004	2005	2006	2007	2008	2009	2010	2011
10 NON EU	BFT	L	NA	NA	NA	NA	NA	NA	6	NA	NA
10 NON EU	MAC	L	NA	NA	NA	NA	NA	NA	NA	1	NA
10 NON EU	ALB	L	NA	NA	1830	NA	NA	750	NA	NA	5
10 NON EU	BET	L	NA	NA	259	NA	NA	NA	NA	NA	NA
10 NON EU	SWO	L	2265	NA	2190	690	NA	885	180	NA	NA
10 NON EU	YFT	L	NA	NA	NA	NA	NA	NA	2800	NA	NA

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

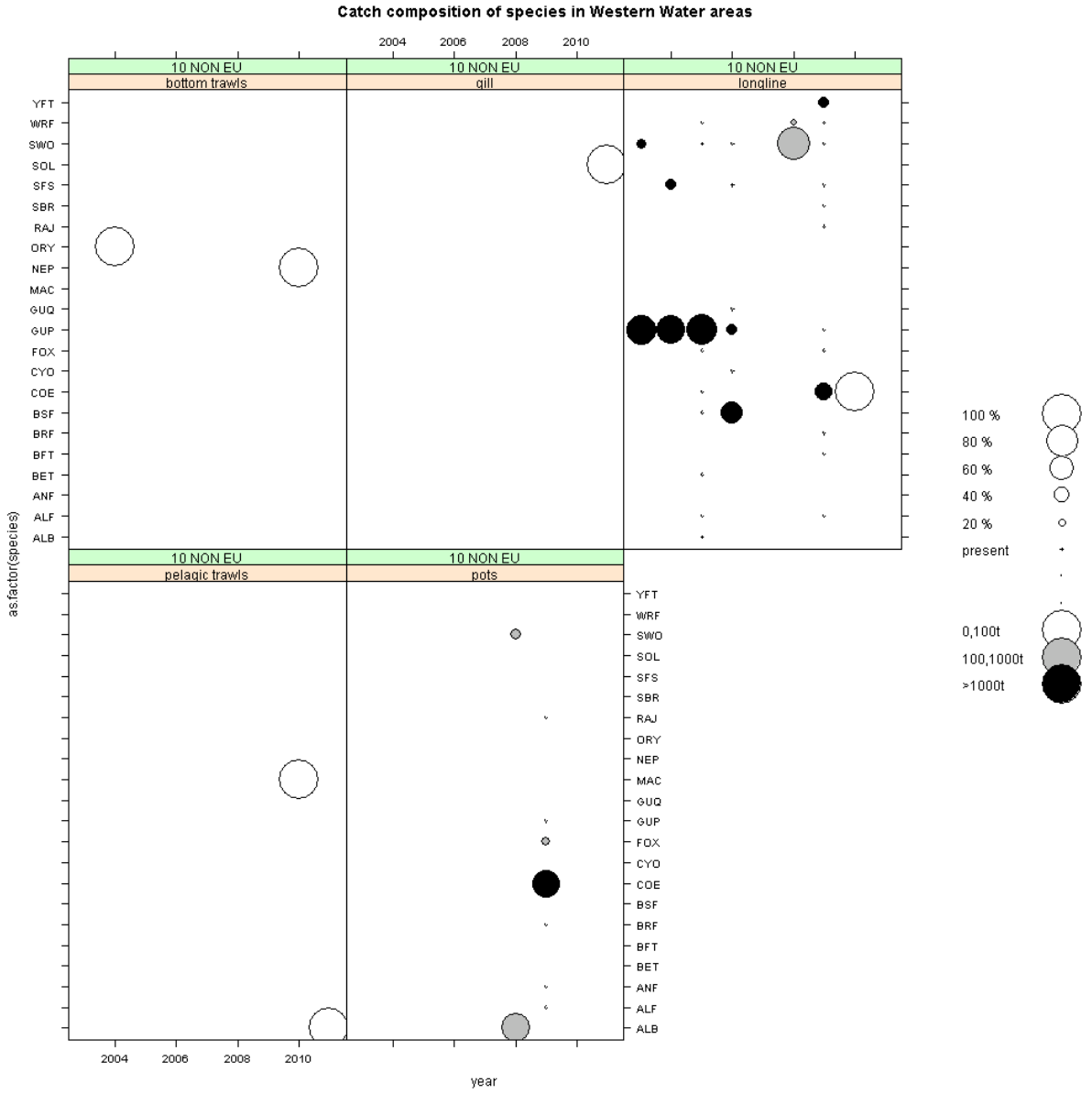


Figure 5.9.2.12.2. Landings composition by gear (countries combined) Western waters area X non-EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

5.9.2.13 Catches in ICES area XII by fisheries and Member States only linked to Deep Sea species

XII non-EU

Figure 5.9.2.13.1 shows that trawl landings in the early years were mainly of roundnose grenadier with small amounts reported for 2010 by France. Orange roughy was landed by Ireland in 2003. Sporadic landings of blue ling and black scabbard were reported up to 2006, with France reporting a small catch of black scabbard for 2010 and 2011.

Gill net catches of Portuguese dogfish, leafscale gulper shark and deep-water red crab by the UK ended in 2006.

Occasional pot landings of deep-water red crab ended in 2008.

Table 5.9.2.13.1. Top 5 deepwater species landed (t) in ICES Area XII non-EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
12 non eu	RNG	NA	NA	20	27	140	NA	2273	2	NA
12 non eu	BLI	5	NA	21	1	7	NA	196	NA	NA
12 non eu	BSF	1	NA	NA	2	7	NA	86	2	1
12 non eu	CYO	5	8	58	1	NA	NA	10	NA	NA
12 non eu	ALC	NA	NA	3	76	9	NA	NA	NA	NA

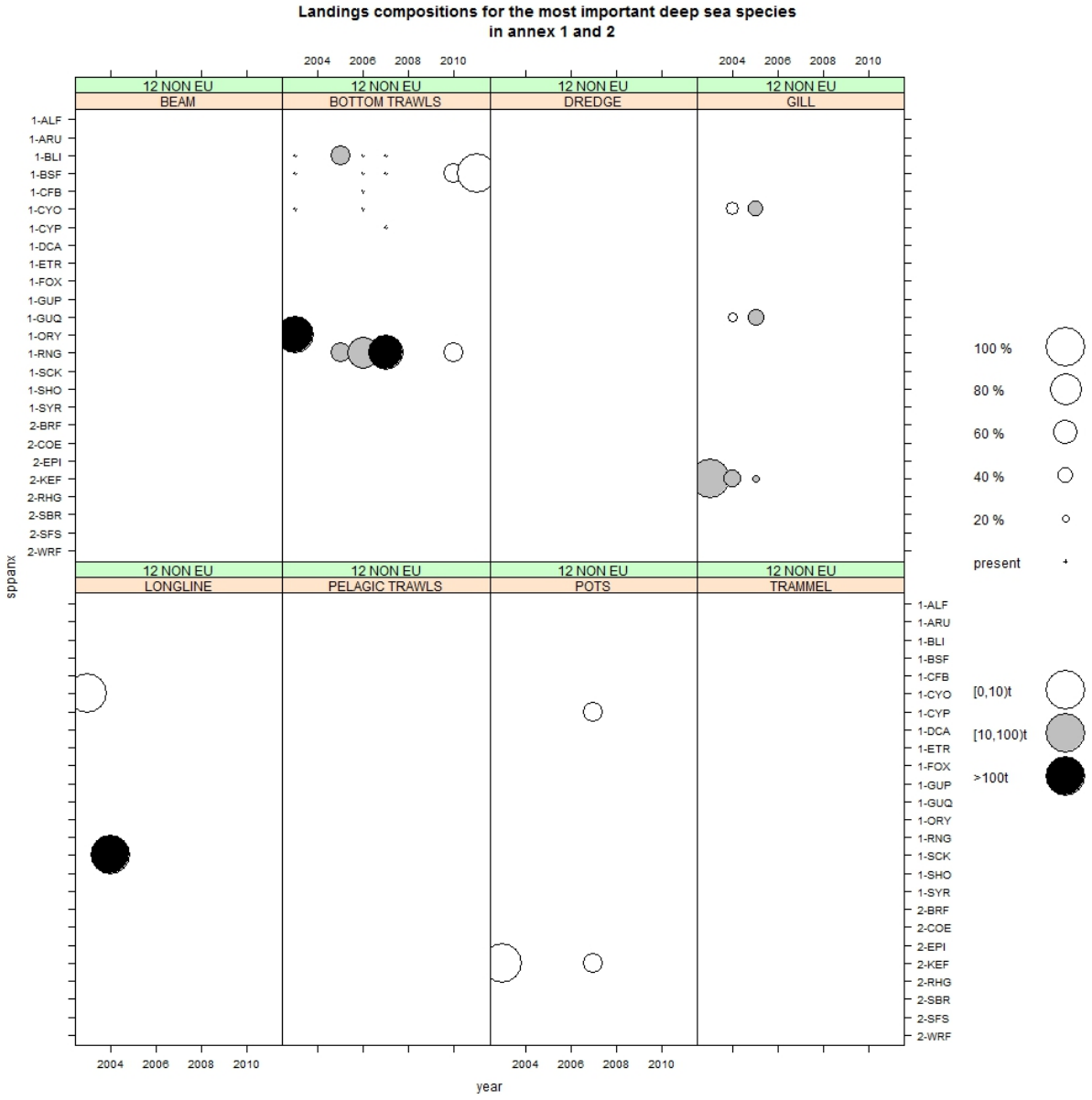


Figure 5.9.2.13.1 Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area XII non-EU

5.9.2.14 Catches in ICES area XIV by fisheries and Member States only linked to Deep Sea species

XIV non-EU

The main species landed by bottom trawl, by Germany, is roundnose grenadier followed by occasional, small, landings of blue ling. Grenadier landings have remained constant through the time series. Germany also recorded occasional catches of black scabbard and orange roughy.

Table 5.9.2.14.1. Top 5 deepwater species landed (t) in ICES Area XIV non-EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	2003	2004	2005	2006	2007	2008	2009	2010	2011
14 non eu	RNG	42	27	12	18	19	17	27	35	32
14 non eu	BLI	6	7	18	NA	NA	1	76	3	7
14 non eu	BSF	NA	NA	NA	NA	NA	NA	1	NA	NA
14 non eu	ORY	NA	4	NA	NA	NA	NA	NA	1	NA
14 non eu	ALC	NA	NA	NA	NA	NA	NA	NA	NA	NA

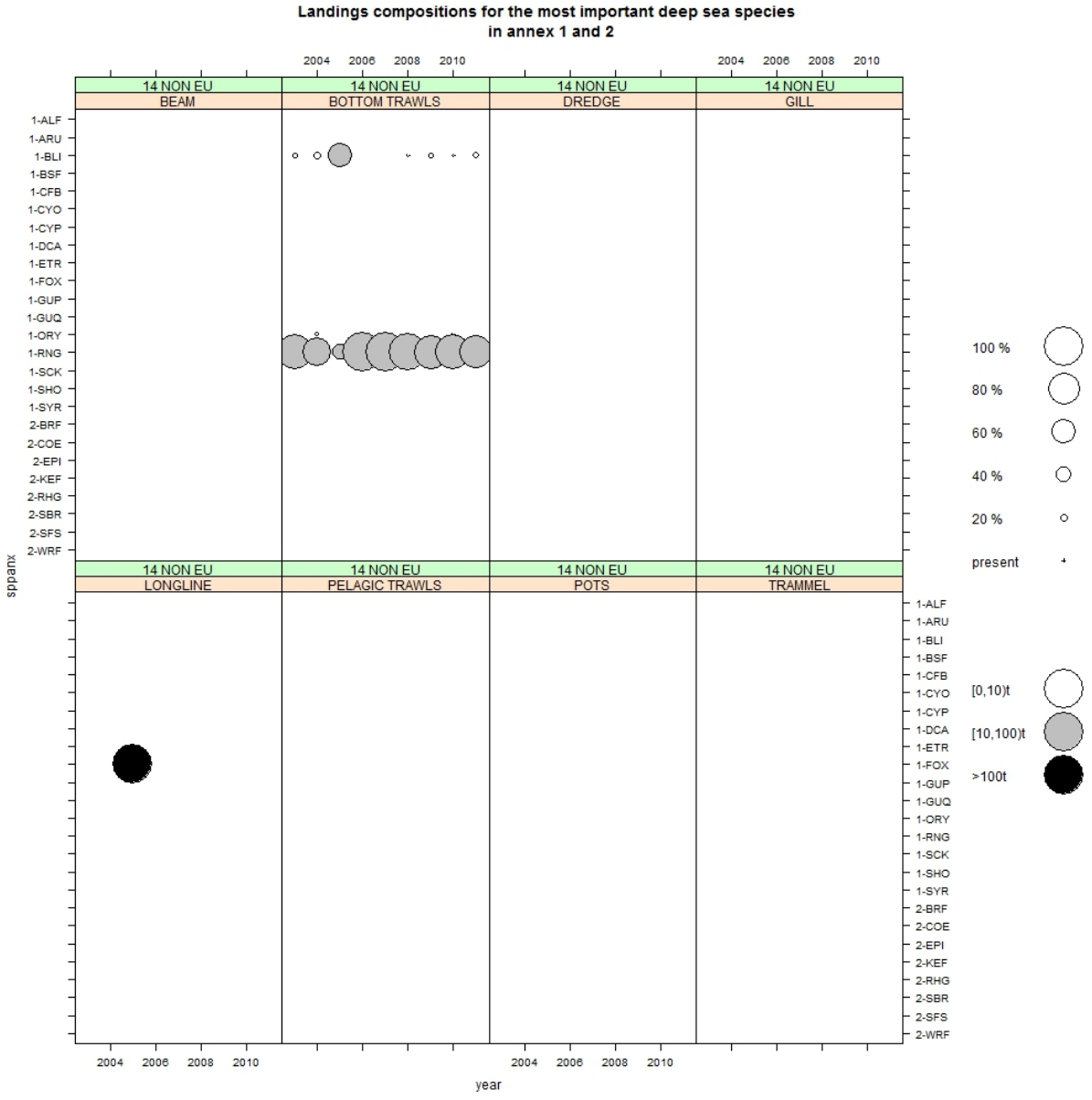


Figure 5.9.2.14.1 Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear ICES Area XIV non-EU

5.9.2.15 Catches in CECAF area 34.1.1 by fisheries and Member States

Deepwater 34.1.1 EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.15.1. Top 5 deepwater species landed (t) in CECAF Area 34.1.1 EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.1 eu	CYO	L	NA	NA	NA	70	NA	NA	24500	NA	NA
34.1.1 eu	COE	L	2000	402	881	15940	5000	14433	15600	11490	NA
34.1.1 eu	WRF	L	250	321	696	15690	5800	14758	11050	3240	NA
34.1.1 eu	FOX	L	1000	432	235	2390	1910	5220	2340	2450	NA
34.1.1 eu	SFS	L	NA	58	NA	NA	160	2000	3935	780	NA

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

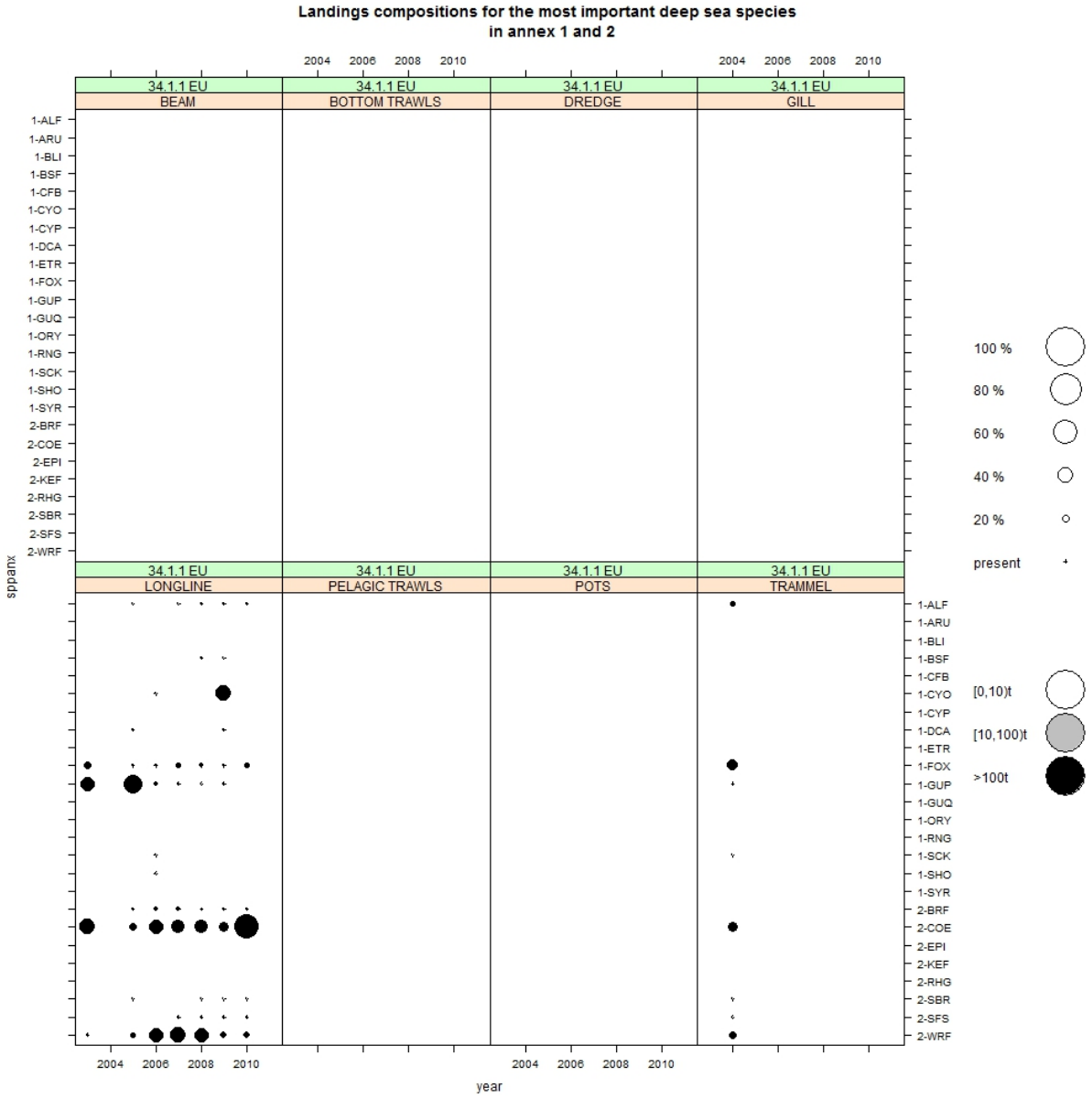


Figure 5.9.2.15.1 Landings of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear CECAF Area 34.1.1 EU

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

Western Waters 34.1.1 EU

Note: a discussion of the demersal or pelagic data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.15.2. Top demersal species landed (tonnes) (average 2009-2011) within CECAF Area 34.1.1 EU, 2003-2011.

area	species	Type		2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.1 EU	COE	L		5250	11350	6138	16400	7100	37833	66330	46455	62885
34.1.1 EU	BRF	L	NA	NA	NA		2635	2075	8615	6362	2010	1456
34.1.1 EU	RAJ	L	NA	NA	NA		505	770	799	1805	488	2815
34.1.1 EU	ANF	L	NA	NA	NA	NA		20	50	50	NA	NA
34.1.1 EU	CAT	L	NA	NA	NA	NA		290	NA	NA	NA	NA

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.15.3. Scallop and crab species by gear landed within CECAF Area 34.1.1 EU, 2003-2011. Values are landings in tonnes.

No data reported.

Table 5.9.2.15.4. Top pelagic species landed (tonnes) (average 2009-2011) within CECAF Area 34.1.1 EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.1 EU	JAX	L						955	750	100	550
34.1.1 EU	SWO	L								7	

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

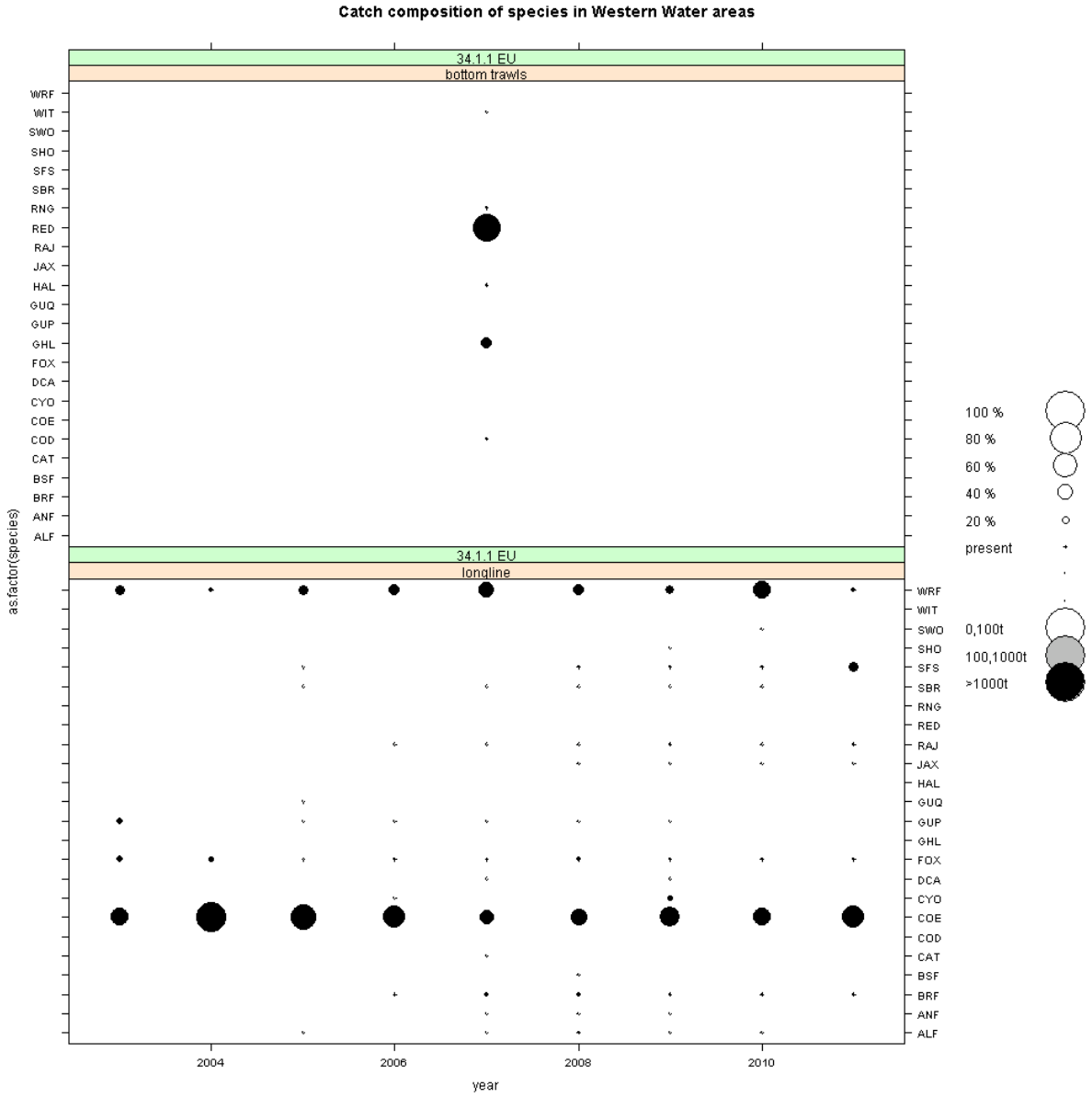


Figure 5.9.2.15.2 Landings composition by gear (countries combined) Western waters CECAF Area 34.1.1 EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

Western Waters 34.1.1 non-EU

Note: a discussion of the demersal or pelagic data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.15.5. Top demersal species landed (tonnes) (average 2009-2011) within CECAF Area 34.1.1 non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.1 NON EU	COE	L	9050	NA	4001	NA	13524	12529	14014	20275	15092
34.1.1 NON EU	HKE	L	NA	NA	NA	NA	203	4	3673	25242	1150
34.1.1 NON EU	BRF	L	NA	NA	192	NA	4211	2265	6167	5880	8758
34.1.1 NON EU	RAJ	L	NA	NA	NA	NA	477	5135	1669	1296	635
34.1.1 NON EU	DGS	L	NA	NA	NA	NA	30	670	231	94	NA

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.15.6. Scallop and crab species by gear landed within CECAF Area 34.1.1 non-EU, 2003-2011. Values are landings in tonnes.

No data provided

Table 5.9.2.15.7. Top pelagic species landed (tonnes) (average 2009-2011) within CECAF Area 34.1.1 non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.1 NON EU	JAX	L			122				1320	62	
34.1.1 NON EU	SWO	L			115					140	
34.1.1 NON EU	YFT	L								770	

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

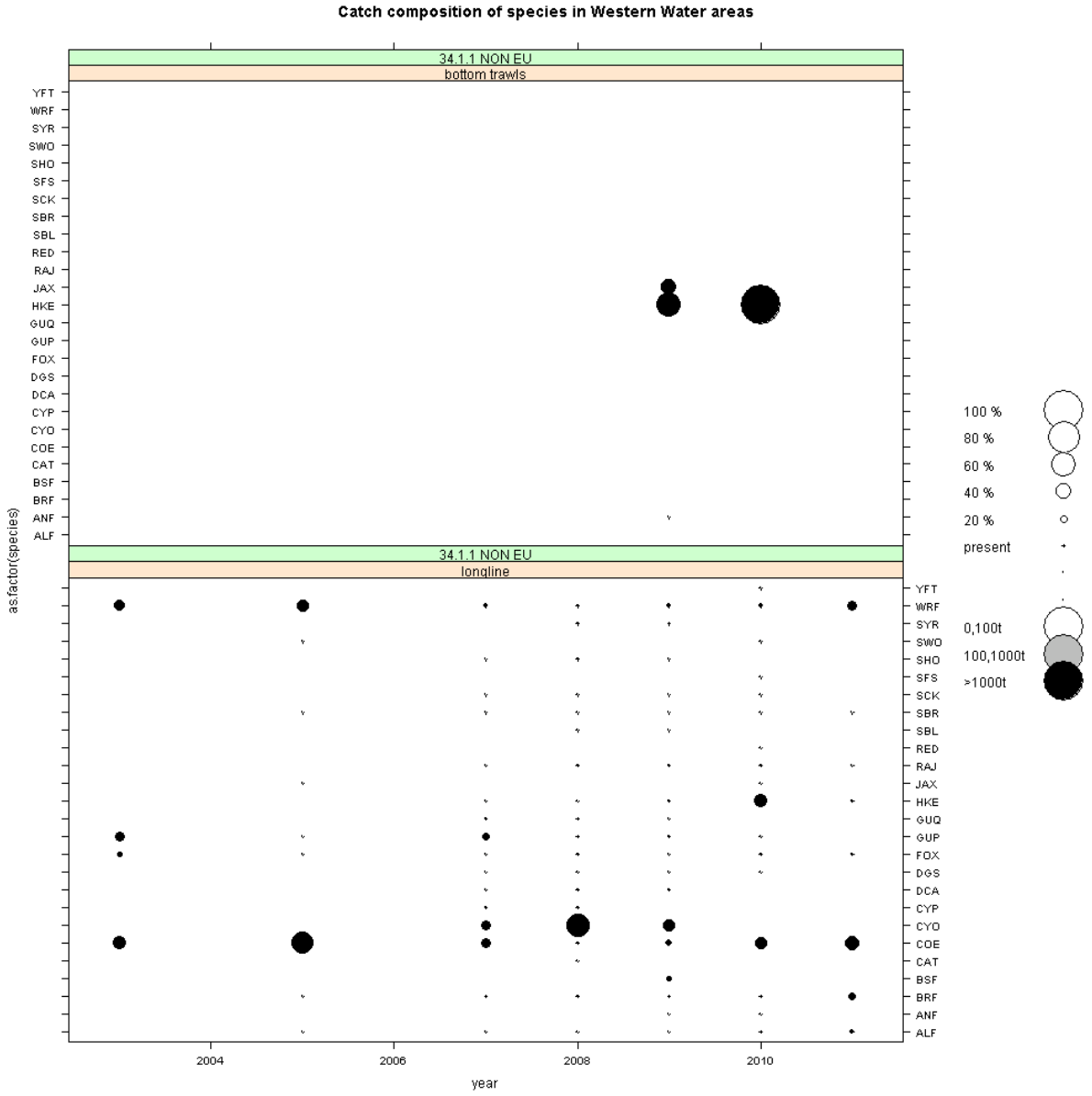


Figure 5.9.2.15.2 Landings composition by gear (countries combined) Western waters CECAF Area 34.1.1 non-EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

5.9.2.16 Catches in CECAF area 34.1.2 by fisheries and Member States

Deepwater 34.1.2 EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.16.1 Top 5 deepwater species landed (t) in CECAF Area 34.1.2 EU. The ranking is based according to the average of the landings of the last three years of the time series.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.2 eu	COE	L	NA	5192	7820	8650	8680	13190	13599	5477	857
34.1.2 eu	SFS	L	NA	260	260	NA	3	90	10990	74	NA
34.1.2 eu	ALF	L	NA	100	NA	NA	195	368	1971	1178	8500
34.1.2 eu	WRF	L	NA	3951	2650	5700	10225	7820	9802	1244	319
34.1.2 eu	BRF	L	NA	NA	NA	810	2710	2440	1565	520	9088

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

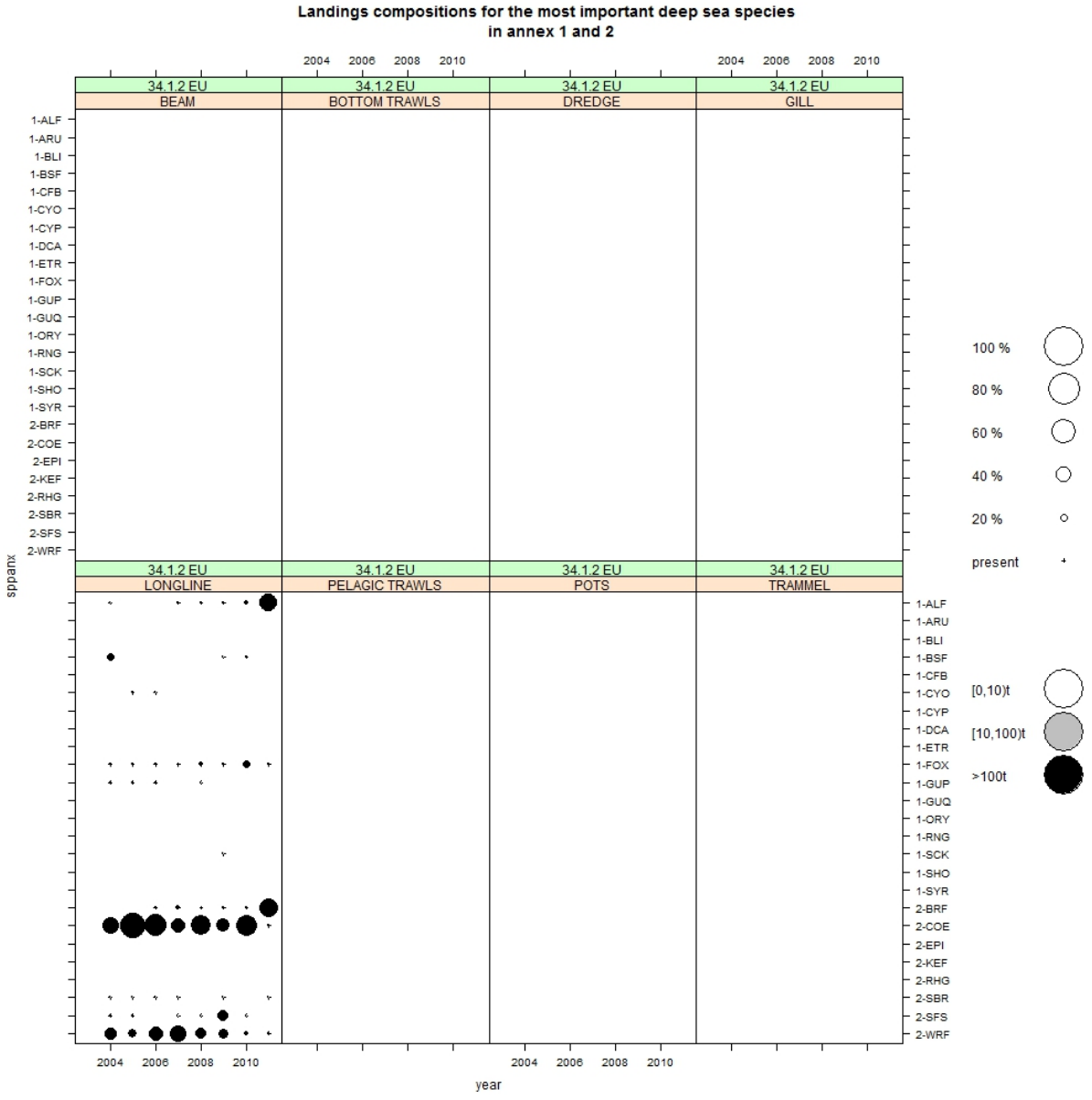


Figure 5.9.2.16.1 Catches of Annex 1&2 Deep Sea species (tonnes) 2003-2011 by gear CECAF Area 34.1.2 EU

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

Western Waters 34.1.2 EU

Note: a discussion of the demersal or pelagic data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.16.2. Top demersal species landed (tonnes) (average 2009-2011) within CECAF Area 34.1.2 EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.2 EU	COE	L	1635	10508	20054	7785	15465	14055	25349	18457	44480
34.1.2 EU	BRF	L	NA	NA	316	1799	1950	2330	3444	1220	9430
34.1.2 EU	RAJ	L	NA	NA	37	130	100	404	1050	531	2084
34.1.2 EU	POK	L	NA	NA	NA	NA	NA	NA	NA	48	NA
34.1.2 EU	ANF	L	NA	NA	14	NA	NA	NA	NA	NA	

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.16.3. Scallop and crab species by gear landed within CECAF Area 34.1.2 EU, 2003-2011. Values are landings in tonnes.

No data provided.

Table 5.9.2.16.4. Top pelagic species landed (tonnes) (average 2009-2011) within CECAF Area 34.1.2 EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.1.2 EU	JAX	L	470	53	NA	NA	NA	95	1739	NA	150

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

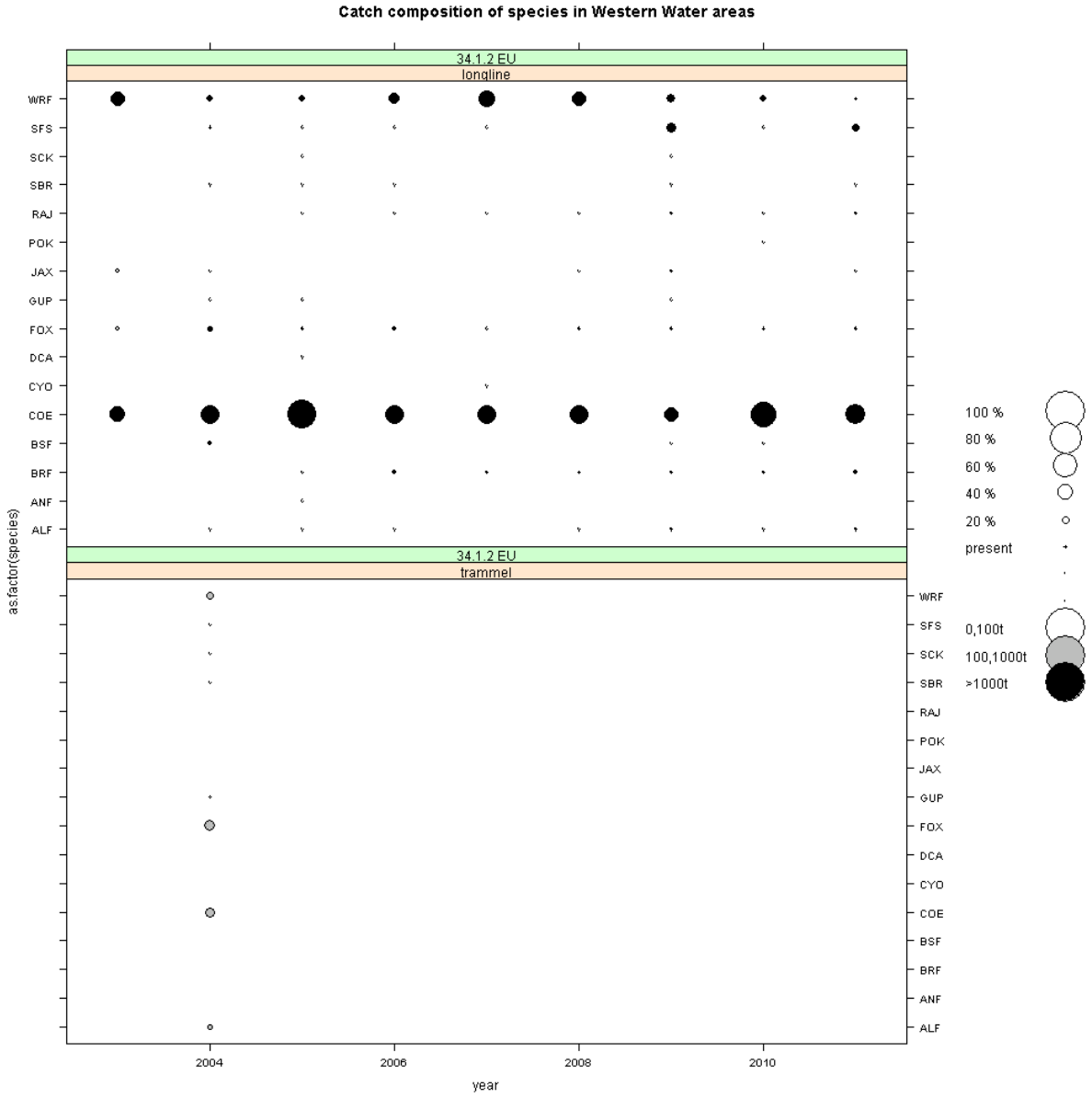


Figure 5.9.2.16.2 Landings composition by gear (countries combined) Western waters CECAF Area 34.1.2 EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

5.9.2.17 Catches in CECAF area 34.1.3 by fisheries and Member States

Deepwater

No data was presented for this area.

Western Waters

No data was presented for this area.

5.9.2.18 Catches in CECAF area 34.2 by fisheries and Member States

Western Waters 34.2.0 EU

Note: a discussion of the pelagic data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.18.1. Top pelagic species landed (tonnes) (average 2009-2011) within CECAF Area 34.2.0 EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.2.0 EU	HER	L						5			
34.2.0 EU	BET	L									1550
34.2.0 EU	SWO	L									110

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

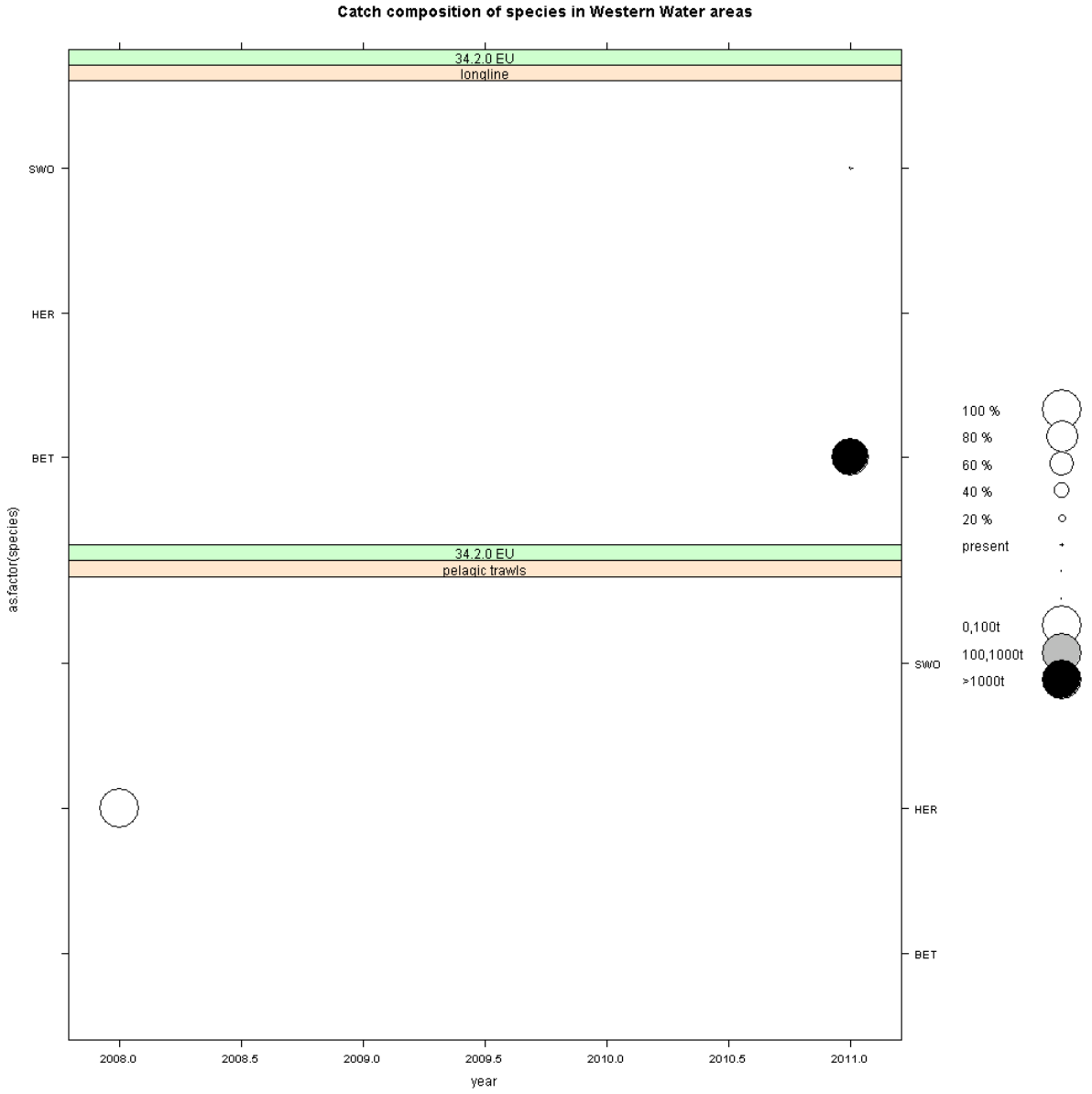


Figure 5.9.2.18.1 Landings composition by gear (countries combined) Western waters CECAF Area 34.2.0 EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

Western Waters 34.2.0 non-EU

Note: a discussion of the demersal and pelagic data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.2.18.2. Top demersal species landed (tonnes) (average 2009-2011) within CECAF Area 34.2.0 non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.2.0 NON EU	COE	L	NA	NA	NA	6550	9420	3390	NA	15020	9200
34.2.0 NON EU	BRF	L	NA	NA	NA	510	700	530	NA	5760	1600
34.2.0 NON EU	RAJ	L	NA	NA	NA	400	NA	NA	NA	3680	75
34.2.0 NON EU	POL	L	NA	NA	NA	NA	NA	NA	NA	13	NA

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

Table 5.9.2.18.3. Scallop and crab species by gear landed within CECAF Area 34.2.0 non-EU, 2003-2011. Values are landings in tonnes.

No data provided

Table 5.9.2.18.4. Top pelagic species landed (tonnes) (average 2009-2011) within CECAF Area 34.2.0 non-EU, 2003-2011.

area	species	Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
34.2.0 NON EU	BUM	L			4281						
34.2.0 NON EU	BET	L			1181	350					
34.2.0 NON EU	SWO	L			5171						

Note: Conclusions cannot be drawn from this table due to major scaling errors within the Portuguese base data

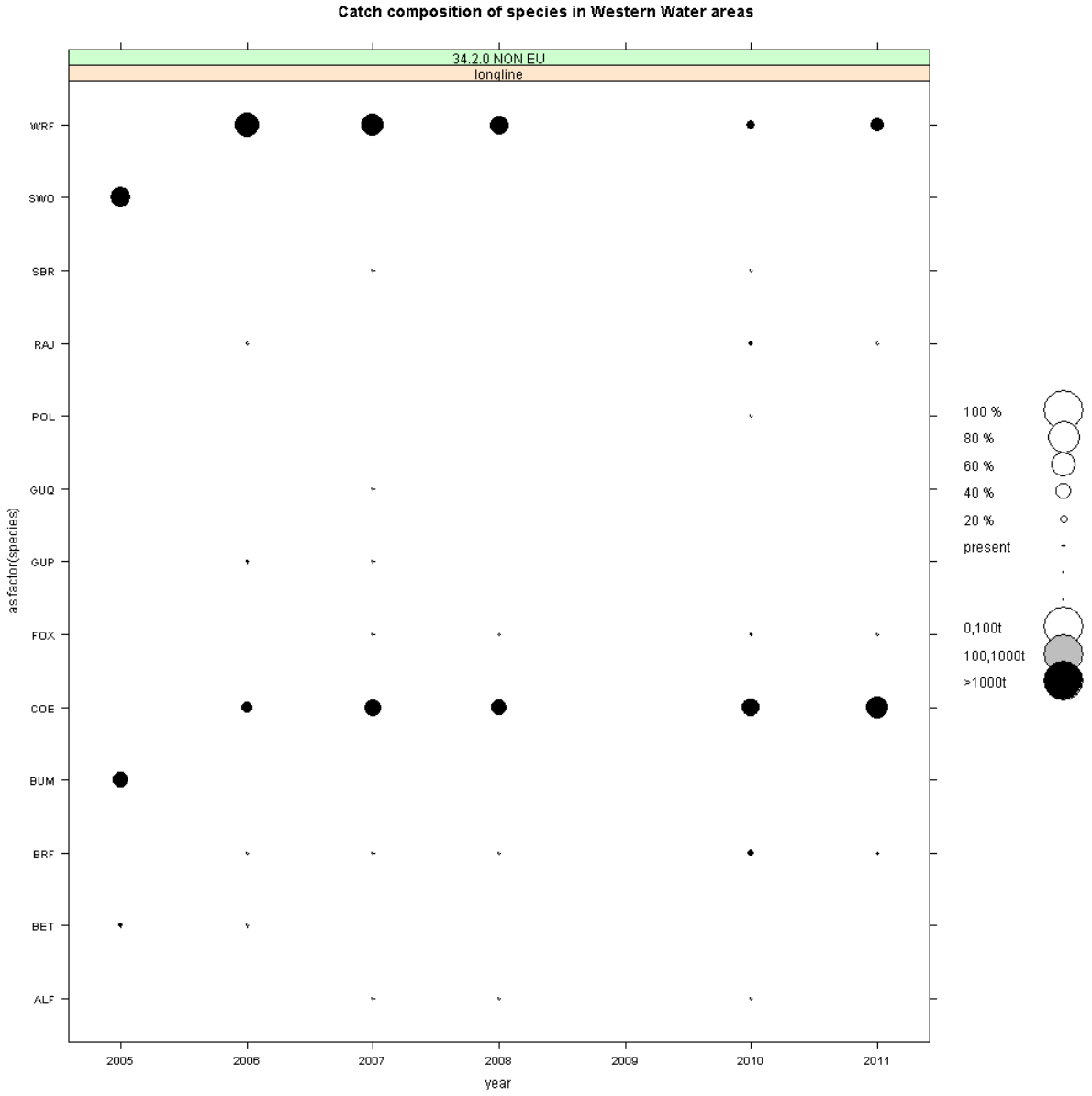


Figure 5.9.2.18.2 Landings composition by gear (countries combined) Western waters CECAF Area 34.2.0 non-EU. Size of circles represents relative contribution to landings, shading indicates quantity.

Note: Conclusions cannot be drawn from this graph due to major scaling errors within the Portuguese base data

5.9.3 ToR 1c CPUE and LPUE (landings and discards) by area

In this section of the report tables showing LPUE and CPUE by gear groups (regulated and unregulated), area and nation are only summaries. The full tables are available on the JRC website: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12.

Some of the tables and graphs presented in this section need to be treated with caution. A full analysis of the data can't be undertaken due to discrepancies in the data submitted by Portugal. This mainly affects information from ICES area VIII to CECAF area 34.2 0.

Similarly Spain has not provided data for 2010 and 2011.

The tables included in this TOR are prepared using the top 5 deepwater species in the deepwater section and the top 5 demersal species in the Western waters section of each Area.

5.9.3.1 CPUE and LPUE in ICES area I by fisheries and Member States only linked to Deep Sea species

There is no data for area I.

5.9.3.2 CPUE and LPUE in ICES area II by fisheries and Member States only linked to Deep Sea species

II EU

Very limited discards are available for deepwater stocks in Area II EU, therefore LPUE for the top 5 species are presented in Table 5.9.2.3.1.

Table 5.9.3.2.1 Area II EU LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	EG AREA CO	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	ARU	2 EU	BOTTOM TRAWLS	DEEP	18						0	108	0	39
DS	ARU	2 EU	PELAGIC TRAWLS	DEEP		2290	0	0		0	0	0	0	0
DS	BLI	2 EU	BOTTOM TRAWLS	DEEP	9	19	43	10	45	73	61	23	36	44
DS	BRF	2 EU	GILL	DEEP					25	36	0	0	0	0
DS	BSF	2 EU	BOTTOM TRAWLS	DEEP			0				0	0	0	0
DS	KEF	2 EU	GILL	DEEP						0	0	492	0	36

II non-EU

There is no data for area II non-EU

5.9.3.3 CPUE and LPUE in ICES area III by fisheries and Member States only linked to Deep Sea species

Very limited discards are available for deepwater stocks in Area III no Baltic, therefore LPUE for the top 5 species are presented in table 5.9.3.3.1. All the data relates to bottom trawls. LPUE data ceased after 2006 for the species listed. In recent years data has been presented again on roundnose grenadier, and blue ling, although in the case of roundnose grenadier at a much lower level than prior to 2006. Information on *Chimaera monstrosa* has only appeared for 2010 and 2011.

Table 5.9.3.3.1 Area III no Baltic LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	ARU	3 no Baltic	BOTTOM TRAWLS	DEEP	3918	1907	1457	2388	0	0	0	0	0	0
DS	BLI	3 no Baltic	BOTTOM TRAWLS	DEEP	72	35	125	274	0	0	0	0	95	41
DS	CMO	3 no Baltic	BOTTOM TRAWLS	DEEP					0	0	0	373	190	122
DS	ETX	3 no Baltic	BOTTOM TRAWLS	DEEP				59	0	0	0	0	0	0
DS	RNG	3 no Baltic	BOTTOM TRAWLS	DEEP	14055	9790	26569	13151	0	0	88	373	474	284

5.9.3.4 CPUE and LPUE in ICES area IV by fisheries and Member States only linked to Deep Sea species

Limited discards are available for deepwater stocks in Area IV, therefore LPUE for the top 5 species are presented in table 5.9.3.4.1. The data relates to bottom trawls. LPUE data for greater argentine ceased after 2006, apart from one record in 2010. The same is true for blue ling. Conger eel is targeted by bottom trawl although data is presented for longlines in 2010.LPUEs for roundnose grenadier are low and fluctuating through the time series.

Table 5.9.3.4.1 Area IV LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	ARU	4	BOTTOM TRAWLS	DEEP	5	5		27			0	6	0	2
DS	ARU	4	PELAGIC TRAWLS	DEEP	19	63	0	21			0	0	0	0
DS	BLI	4	BOTTOM TRAWLS	DEEP	15	30	10	7	4	10	11	31	4	16
DS	BLI	4	GILL	DEEP	0	0					0	0	0	0
DS	BSF	4	BOTTOM TRAWLS	DEEP	0	4	2	10	1	0	0	13	0	5
DS	COE	4	BEAM	DEEP	0	0		0	0	0	0	0	0	0
DS	COE	4	BOTTOM TRAWLS	DEEP	4	7	6	5	8	6	9	8	11	9
DS	COE	4	GILL	DEEP	0						0	0	0	0
DS	COE	4	LONGLINE	DEEP	0	0	0	0		0	48	0	0	33
DS	RNG	4	BOTTOM TRAWLS	DEEP	3	5	14	6	23	1	1	14	0	5

5.9.3.5 CPUE and LPUE in ICES area V by fisheries and Member States

Deepwater V EU

Limited discards are available for deepwater stocks in Area V EU, therefore LPUE for the top 5 species are presented in table 5.9.3.5.1. CPUEs and LPUEs were highest for bottom trawls, targeting blue ling, roundnose grenadier and black scabbard. High effort for beam and pelagic trawls ceased in the mid 2000s.

For greater argentine data is very sporadic after 2005. LPUEs for blue ling were stable through the time series but increased by 300% in 2011. A similar increase was recorded for black scabbard whereas while roundnose grenadier figures increased in 2010 they dropped severely in 2011.

Table 5.9.3.5.1 Area V EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	ARU	5 EU	BOTTOM TRAWLS	DEEP	1	0					0	96	0	30
DS	ARU	5 EU	PELAGIC TRAWLS	DEEP		175	192				0	0	0	0
DS	BLI	5 EU	BEAM	DEEP	658	1058	0	0	0	0	0	0	0	0
DS	BLI	5 EU	BOTTOM TRAWLS	DEEP	711	713	683	683	725	732	722	857	2968	936
DS	BLI	5 EU	GILL	DEEP	18	0	36	48	0	13	13	0	0	13
DS	BSF	5 EU	BEAM	DEEP		81	0	0	0	0	0	0	0	0
DS	BSF	5 EU	BOTTOM TRAWLS	DEEP	115	67	76	80	86	180	178	265	774	251
DS	CFB	5 EU	BOTTOM TRAWLS	DEEP							0	91	0	28
DS	RNG	5 EU	BEAM	DEEP	658	1058	0	0	0	0	0	0	0	0
DS	RNG	5 EU	BOTTOM TRAWLS	DEEP	524	563	754	792	692	502	496	738	78	540

Western Waters V EU

Data presented in this section relates to the top 5 demersal species in the area.

CPUEs and LPUEs in the western waters of area V EU were highest for bottom trawls, although the largest LPUE values recorded are for anglerfish caught by gill nets (Table 5.9.3.5.2). However no information has been reported for this for 2010 and 2011. Since 2008 greater LPUEs are being recorded for Greenland halibut and halibut in bottom trawls.

Table 5.9.3.5.2 Area V EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	EG AREA CO	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
ANF	5 EU	BEAM	none		0	0	0	0	0	0	0	0	0
ANF	5 EU	BOTTOM TRAWLS	none	7	11	48	12	13	24	21	7	49	19
ANF	5 EU	GILL	none	200	1191	2624	3148	1905	1637	1637	0	0	1637
DGS	5 EU	BEAM	none	0	163	0	0	0	0	0	0	0	0
DGS	5 EU	BOTTOM TRAWLS	none	52	69	82	86	73	14	14	2	0	9
DGS	5 EU	GILL	none			44				0	0	0	0
DGS	5 EU	LONGLINE	none	0	0	311	0	0	0	0	0	0	0
GHL	5 EU	BEAM	none		0	0	0	0	0	0	0	0	0
GHL	5 EU	BOTTOM TRAWLS	none	72	70	23	12	9	79	145	314	91	193
GHL	5 EU	GILL	none	14	10	18				0	0	0	0
HAL	5 EU	BEAM	none		0	0	0	0	0	0	0	0	0
HAL	5 EU	BOTTOM TRAWLS	none	3	5	5	9	15	10	10	7	16	10
HAL	5 EU	GILL	none	0	5	9	16	0	0	0	0	0	0
POK	5 EU	BEAM	none		0	0	0	0	0	0	0	0	0
POK	5 EU	BOTTOM TRAWLS	none	49	29	80	98	63	27	27	12	189	37
POK	5 EU	PELAGIC TRAWLS	none		0		0	10		0	0	0	0

Deepwater V non-EU

Once again CPUEs and LPUEs in area V non-EU were highest for bottom trawls. In 2003 and 2004 high LPUEs are presented for beam trawl. It is quite possible that this should be reclassified as bottom trawl, (Table 5.9.3.5.3).

No information has been reported for 2011 apart from bottom trawl for roundnose grenadier.

LPUEs for blue ling peaked in 2008 but have been in decline since. Those for roundnose grenadier were consistent up to 2009 but have decreased greatly since. LPUEs for black scabbard have begun to increase in recent years.

Table 5.9.3.5.3 Area V non-EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	BLI	5 non EU	BEAM	DEEP	494	135	0	0	0	0	0	0	0	0
DS	BLI	5 non EU	BOTTOM TRAWLS	DEEP	187	183	160	241	842	1067	961	460	0	541
DS	BSF	5 non EU	BEAM	DEEP	329	270	0	0	0	0	0	0	0	0
DS	BSF	5 non EU	BOTTOM TRAWLS	DEEP	18	40	34	17	35	41	33	62	0	41
DS	CFB	5 non EU	BOTTOM TRAWLS	DEEP							0	20	0	10
DS	CYO	5 non EU	BOTTOM TRAWLS	DEEP	1	3	5		0	0	0	27	0	13
DS	RNG	5 non EU	BEAM	DEEP	1316	541	0	0	0	0	0	0	0	0
DS	RNG	5 non EU	BOTTOM TRAWLS	DEEP	206	186	141	128	164	129	100	33	8	51

Western waters V non-EU

CPUEs and LPUEs in the western waters of area V EU were highest for bottom trawls, although the largest LPUE values recorded are for anglerfish caught by gill nets (Table 5.9.3.5.4).

LPUEs for saithe fluctuated through the time series before reaching a peak in 2009, however they have been in decline since. Bottom trawls for cod also peaked in 2008 and are also in decline. Since 2008 increasing LPUEs are being recorded for Greenland halibut in bottom trawls.

Table 5 9.3.5.4 Area V non-EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	EG AREA CO	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
ANF	5 non EU	BOTTOM TRAWLS	none	55	100	149	216	168	169	318	117	0	163
ANF	5 non EU	GILL	NONE	1359	0	0	0	0	0	0	0	0	0
ANF	5 non EU	LONGLINE	none	0	0	0	0	0	0	0	0	0	0
COD	5 non EU	BOTTOM TRAWLS	none	273	452	453	299	579	954	620	397	4	409
COD	5 non EU	LONGLINE	none	277	0	0	0	0	0	0	0	0	0
COD	5 non EU	PELAGIC TRAWLS	none					0		0	0	0	0
GHL	5 non EU	BOTTOM TRAWLS	none	89	37	23	20	315	428	855	1124	2227	1204
GHL	5 non EU	LONGLINE	none	0	0	0	0	0	0	0	0	0	0
HAD	5 non EU	BOTTOM TRAWLS	none	101	113	72	97	70	150	167	80	0	96
HAD	5 non EU	LONGLINE	none	277	0	0	0	0	0	0	0	0	0
POK	5 non EU	BOTTOM TRAWLS	none	698	787	878	1079	619	933	1261	823	502	913
POK	5 non EU	PELAGIC TRAWLS	none	0	3		0	5	58	0	0	0	0

5.9.3.6 CPUE and LPUE in ICES area VI by fisheries and Member States

Deepwater VI EU

Spanish data is lacking for this area for 2010 and 2011.

Once again bottom trawl is the dominant method used in this area, (Table 5.9.3.6.1).

LPUEs for blue ling have been very stable through the time series. Those for roundnose grenadier declined up to 2006 but have been relatively stable since. LPUEs for black scabbard rose to 2008 and appear to have stabilised in recent years.

CPUEs for greater argentine caught by pelagic trawl have fluctuated wildly in the last four years.

Once again it is quite possible that beam trawl effort in 2003 and 2004 should be reclassified as bottom trawl.

Table 5.9.3.6.1 Area VI EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	ARU	6 EU	BOTTOM TRAWLS	DEEP	9	2	5	1		0	1	5	1	2
DS	ARU	6 EU	PELAGIC TRAWLS	DEEP		313	72	153	153		607	7	2252	896
DS	BLI	6 EU	BEAM	DEEP	486	261			0	0	0	0	0	0
DS	BLI	6 EU	BOTTOM TRAWLS	DEEP	320	388	372	484	443	386	386	359	413	383
DS	BLI	6 EU	GILL	DEEP	31	5	4	4	13	79	99	0	0	38
DS	BLI	6 EU	LONGLINE	DEEP	2	0	0	8	3	0	30	0	0	12
DS	BSF	6 EU	BEAM	DEEP	108	41			0	0	0	0	0	0
DS	BSF	6 EU	BOTTOM TRAWLS	DEEP	342	341	365	343	443	538	492	446	553	491
DS	BSF	6 EU	GILL	DEEP						37	47	0	0	18
DS	BSF	6 EU	LONGLINE	DEEP			0				0	0	0	0
DS	CMO	6 EU	BOTTOM TRAWLS	DEEP	3	0	0	1	2	2	0	71	82	44
DS	RNG	6 EU	BEAM	DEEP	1810	1022			0	0	0	0	0	0
DS	RNG	6 EU	BOTTOM TRAWLS	DEEP	549	538	415	369	341	319	287	324	316	306
DS	RNG	6 EU	GILL	DEEP	0					142	179	0	0	68
DS	RNG	6 EU	LONGLINE	DEEP		0					0	0	0	0

Western Waters VI EU

Some discard information is available for this area. Tables 5.9.3.6.2 and 5.9.3.6.3 present the LPUE and CPUE data for the five most important demersal species. Discarding appears to take place in the bottom trawl fleet for anglerfish, haddock, hake and saithe.

For anglerfish gill net CPUEs are showing an increasing trend, peaking in 2011, while bottom trawl figures have stabilised at a lower level since 2007.

Haddock bottom trawl CPUEs have been in decline since a peak in 2006, bar 2010 when a spike in CPUE occurred. Only gill nets have reported effort in the last three years but it is at a very low level.

Longline CPUEs for hake are increasing as are those for gill nets. CPUEs for bottom trawls have been increasing since 2006.

CPUEs for saithe caught in bottom trawls were in decline since peaking in 2006, however the figure increased again in 2011. CPUEs for gill nets were reasonably stable between 2008 and 2010 but declined in 2011.

Table 5.9.3.6.2 Area VI EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	EG AREA CO	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
ANF	6 EU	BEAM	none	15	45	44	27		0	0	0	0	0
ANF	6 EU	BOTTOM TRAWLS	none	105	126	184	208	265	262	295	217	284	266
ANF	6 EU	DREDGE	none	1	1	0	0			0	0	0	0
ANF	6 EU	GILL	none	266	307	451	757	860	919	1013	823	1219	1040
ANF	6 EU	LONGLINE	none	0	0	0	0	0		0	0	0	0
ANF	6 EU	none	NONE						0	0	0	0	0
ANF	6 EU	PELAGIC TRAWLS	none	0				0		0	0	0	0
ANF	6 EU	POTS	none	0	0	0	0	0	0	0	0	0	0
ANF	6 EU	TRAMMEL	none				2232	0	0	0	0	0	0
HAD	6 EU	BEAM	none	10	22	6	9	0	0	0	0	0	0
HAD	6 EU	BOTTOM TRAWLS	none	317	198	231	441	404	381	422	416	290	381
HAD	6 EU	DREDGE	none		0					0	0	0	0
HAD	6 EU	GILL	none	2	0	3	10	18	16	19	12	9	13
HAD	6 EU	LONGLINE	none	2	2	8	6	3	0	0	0	0	0
HAD	6 EU	PELAGIC TRAWLS	none	1			0	0		0	0	0	0
HAD	6 EU	POTS	none	6	3	0	0		0	0	0	0	0
HKE	6 EU	BEAM	none		0	0	0		0	0	0	0	0
HKE	6 EU	BOTTOM TRAWLS	none	21	44	79	77	87	129	131	208	178	170
HKE	6 EU	DREDGE	none		0	0				0	0	0	0
HKE	6 EU	GILL	none	9	12	27	202	604	1127	1255	1487	1296	1333
HKE	6 EU	LONGLINE	none	282	488	1117	1329	1490	1357	2089	2603	3852	2816
HKE	6 EU	none	NONE					0		0	0	0	0
HKE	6 EU	PELAGIC TRAWLS	none	1		0	0			36	14	0	18
HKE	6 EU	POTS	none	0	0		0	0		0	0	0	0
HKS	6 EU	GILL	none						1	1	0	0	0
NEP	6 EU	BEAM	none	10					0	0	0	0	0
NEP	6 EU	BOTTOM TRAWLS	none	390	427	502	772	968	907	744	776	967	821
NEP	6 EU	DREDGE	none	1	2	3	3			0	0	0	0
NEP	6 EU	GILL	none	0	1					0	0	0	0
NEP	6 EU	LONGLINE	none		0					0	0	0	0
NEP	6 EU	none	NONE	0	0	0				0	0	0	0
NEP	6 EU	POTS	none	163	187	206	200	154	189	199	192	192	194
POK	6 EU	BEAM	none	0	17		18	240	0	0	0	0	0
POK	6 EU	BOTTOM TRAWLS	none	234	250	400	675	460	449	513	428	582	505
POK	6 EU	GILL	none	16	3	3	119	499	372	413	424	261	359
POK	6 EU	LONGLINE	none	4	3	6	8	13	9	4	2	7	4
POK	6 EU	PELAGIC TRAWLS	none	2		0	0	0		0	0	0	0
POK	6 EU	POTS	none		0				0	0	0	0	0

Table 5.9.3.6.3 Area VI EU WW CPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	CPUE 2009-2011
ANF	6 EU	BEAM	none	15	45	44	27		0	0	0	0	0
ANF	6 EU	BOTTOM TRAWLS	none	155	164	188	208	282	268	303	219	293	272
ANF	6 EU	DREDGE	none	1	1	0	0			0	0	0	0
ANF	6 EU	GILL	none	266	307	451	757	860	919	1013	823	1219	1040
ANF	6 EU	LONGLINE	none	0	0	0	0	0		0	0	0	0
ANF	6 EU	none	NONE						0	0	0	0	0
ANF	6 EU	PELAGIC TRAWLS	none	0				0		0	0	0	0
ANF	6 EU	POTS	none	0	0	0	0	0	0	0	0	0	0
ANF	6 EU	TRAMMEL	none				2232	0	0	0	0	0	0
HAD	6 EU	BEAM	none	10	22	6	9	0	0	0	0	0	0
HAD	6 EU	BOTTOM TRAWLS	none	655	478	425	902	720	609	694	2289	419	1144
HAD	6 EU	DREDGE	none		0					0	0	0	0
HAD	6 EU	GILL	none	2	0	3	10	18	16	19	12	9	13
HAD	6 EU	LONGLINE	none	2	2	8	6	3	0	0	0	0	0
HAD	6 EU	PELAGIC TRAWLS	none	1			0	0		0	0	0	0
HAD	6 EU	POTS	none	6	3	0	0		0	0	0	0	0
HKE	6 EU	BEAM	none		0	0	0		0	0	0	0	0
HKE	6 EU	BOTTOM TRAWLS	none	69	124	129	77	140	161	177	247	329	246
HKE	6 EU	DREDGE	none		0	0				0	0	0	0
HKE	6 EU	GILL	none	9	12	27	202	604	1127	1255	1487	1312	1339
HKE	6 EU	LONGLINE	none	282	488	1117	1329	1490	1357	2089	2603	3852	2816
HKE	6 EU	none	NONE					0		0	0	0	0
HKE	6 EU	PELAGIC TRAWLS	none	1		0	0			36	14	0	18
HKE	6 EU	POTS	none	0	0		0	0		0	0	0	0
NEP	6 EU	BEAM	none	10					0	0	0	0	0
NEP	6 EU	BOTTOM TRAWLS	none	390	427	502	772	968	907	744	776	967	821
NEP	6 EU	DREDGE	none	1	2	3	3			0	0	0	0
NEP	6 EU	GILL	none	0	1					0	0	0	0
NEP	6 EU	LONGLINE	none		0					0	0	0	0
NEP	6 EU	none	NONE	0	0	0				0	0	0	0
NEP	6 EU	POTS	none	163	187	206	200	154	189	199	192	192	194
POK	6 EU	BEAM	none	0	17		18	240	0	0	0	0	0
POK	6 EU	BOTTOM TRAWLS	none	739	325	901	1105	616	692	515	480	694	556
POK	6 EU	GILL	none	16	3	3	119	499	372	413	424	279	365
POK	6 EU	LONGLINE	none	4	3	6	8	13	9	4	2	7	4
POK	6 EU	PELAGIC TRAWLS	none	2		0	0	0		0	0	0	0
POK	6 EU	POTS	none		0				0	0	0	0	0

Deepwater VI non-EU

LPUEs from bottom trawl have been very low in recent years, with nothing reported for 2011 (Table 5.9.3.6.4). The most effort in recent years has been directed at blue ling and greater forkbeard.

Table 5.9.3.6.4 Area VI non-EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	ALC	6 non EU	BOTTOM TRAWLS	DEEP			109	175			0	0	0	0
DS	BLI	6 non EU	BOTTOM TRAWLS	DEEP	53	77	132	43	104	60	30	7	0	14
DS	BLI	6 non EU	GILL	DEEP	6	3	0	0		0	0	0	0	0
DS	BLI	6 non EU	LONGLINE	DEEP	0		0	0	0	0	0	0	0	0
DS	BRF	6 non EU	BOTTOM TRAWLS	DEEP	37	43	70	77	47	20	0	7	0	4
DS	BRF	6 non EU	GILL	DEEP	0		0			0	0	0	0	0
DS	BSF	6 non EU	BOTTOM TRAWLS	DEEP	1	1	130	6			0	0	0	0
DS	FOX	6 non EU	BOTTOM TRAWLS	DEEP	23	20	37	68	164	132	50	44	0	40
DS	FOX	6 non EU	GILL	DEEP	18	11	13	13		0	0	0	0	0

Western waters VI non-EU

Note: a discussion of the demersal data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.6.5 Area VI non-EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	EG AREA CO	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
ANF	6 non EU	BOTTOM TRAWLS	none	33	30	52	78	167	125	88	283	365	263
ANF	6 non EU	GILL	none	54	27403	1150	744	884	0	1502	0	0	1502
ANF	6 non EU	LONGLINE	none		166226	0	0	0	0	0	0	0	0
HAD	6 non EU	BOTTOM TRAWLS	none	285	17	7	8	183	132	1542	1938	1308	1656
LIN	6 non EU	BOTTOM TRAWLS	none	18	12	11	17	47	38	69	139	112	115
LIN	6 non EU	GILL	none	17	23731	12	13	16	0	0	0	0	0
LIN	6 non EU	POTS	none		0	0	0			0	0	0	0
POK	6 non EU	BOTTOM TRAWLS	none	2	0	0	0	5	6	23	34	112	55
POK	6 non EU	GILL	none			0			0	0	0	0	0
WIT	6 non EU	BOTTOM TRAWLS	none	956	1005	1058	1158	1032	1472	204	349	28	218
WIT	6 non EU	GILL	none	3	0	0			0	0	0	0	0

5.9.3.7 CPUE and LPUE in ICES area VII excluding VIId by fisheries and Member States

Deepwater VII EU no VIId

Spanish data is lacking for this area for 2010 and 2011

Small differences appear between CPUE and LPUE for black scabbard and roundnose grenadier in the bottom trawl fishery in 2010, (Tables 5.9.3.7.1 and 5.9.3.7.2).

After peaking in 2006 bottom trawl CPUEs for roundnose grenadier have stabilised in recent years, at a low level. Black scabbard CPUEs were stable for the time series but jumped 75% in 2011. Conger eel CPUEs are stable at low levels, while those of forkbeards are in decline since 2005.

CPUEs for conger eel caught on longline peaked between 2004 and 2005 but are in severe decline since. Longline is also an important method for forkbeard. Numbers were fluctuating in recent years and increased greatly in 2011.

Table 5.9.3.7.1 Area VII EU no VIId DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	BRF	7 EU no 7d	BOTTOM TRAWLS	DEEP	4	3	8	11	5	6	8	2	5	5
DS	BRF	7 EU no 7d	GILL	DEEP	3	8	7	16	4	8	13	3	2	6
DS	BRF	7 EU no 7d	LONGLINE	DEEP	15	6	3	3	34	41	95	184	354	152
DS	BRF	7 EU no 7d	PELAGIC TRAWLS	DEEP	0				0		0	0	0	0
DS	BSF	7 EU no 7d	BOTTOM TRAWLS	DEEP	46	59	33	72	43	37	45	31	71	48
DS	BSF	7 EU no 7d	LONGLINE	DEEP	6		0		0		3	0	0	1
DS	BSF	7 EU no 7d	PELAGIC TRAWLS	DEEP		7		0	0		0	0	0	0
DS	COE	7 EU no 7d	BEAM	DEEP	22	30	37	31	32	39	16	18	28	20
DS	COE	7 EU no 7d	BOTTOM TRAWLS	DEEP	47	39	21	13	19	29	35	45	37	39
DS	COE	7 EU no 7d	GILL	DEEP	2	2	5	7	9	3	8	6	5	6
DS	COE	7 EU no 7d	LONGLINE	DEEP	530	813	809	423	188	104	95	53	43	75
DS	COE	7 EU no 7d	none	DEEP	0	0	0	0	0	0	0	0	0	0
DS	COE	7 EU no 7d	PELAGIC TRAWLS	DEEP	5				0		0	0	0	0
DS	COE	7 EU no 7d	POTS	DEEP		83	0	0	0		0	0	0	0
DS	COE	7 EU no 7d	TRAMMEL	DEEP	0	0	0	0	48	0	0	0	122	79
DS	FOX	7 EU no 7d	BEAM	DEEP	1	1	1	1	0	0	2	3	0	2
DS	FOX	7 EU no 7d	BOTTOM TRAWLS	DEEP	64	70	75	55	37	30	25	15	11	17
DS	FOX	7 EU no 7d	GILL	DEEP	67	25	7	10	6	3	8	6	3	6
DS	FOX	7 EU no 7d	LONGLINE	DEEP	34	115	30	29	15	48	77	82	298	101
DS	FOX	7 EU no 7d	none	DEEP	0	0	0	0	0	0	0	0	0	0
DS	FOX	7 EU no 7d	PELAGIC TRAWLS	DEEP	10				0		0	0	0	0
DS	FOX	7 EU no 7d	TRAMMEL	DEEP	27	0	0	0	0		0	0	0	0
DS	RNG	7 EU no 7d	BOTTOM TRAWLS	DEEP	49	42	29	65	36	25	30	13	18	21
DS	RNG	7 EU no 7d	GILL	DEEP			1				0	0	0	0
DS	RNG	7 EU no 7d	LONGLINE	DEEP		0					0	0	0	0

Table 5.9.3.7.2 Area VII EU no VIId DS CPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	UE 2009-20
DS	BRF	7 EU no 7d	BOTTOM TRAWLS	DEEP	4	3	8	11	5	6	8	2	5	5
DS	BRF	7 EU no 7d	GILL	DEEP	3	8	7	16	4	8	13	3	2	6
DS	BRF	7 EU no 7d	LONGLINE	DEEP	15	6	3	3	34	41	95	184	354	152
DS	BRF	7 EU no 7d	PELAGIC TRAWLS	DEEP	0				0		0	0	0	0
DS	BSF	7 EU no 7d	BOTTOM TRAWLS	DEEP	46	59	33	72	43	37	45	41	71	51
DS	BSF	7 EU no 7d	LONGLINE	DEEP	6		0		0		3	0	0	1
DS	BSF	7 EU no 7d	PELAGIC TRAWLS	DEEP		7		0	0		0	0	0	0
DS	COE	7 EU no 7d	BEAM	DEEP	22	30	37	31	32	39	16	18	28	20
DS	COE	7 EU no 7d	BOTTOM TRAWLS	DEEP	47	39	21	13	19	29	35	45	37	39
DS	COE	7 EU no 7d	GILL	DEEP	2	2	5	7	9	3	8	6	5	6
DS	COE	7 EU no 7d	LONGLINE	DEEP	530	813	809	423	188	104	95	53	43	75
DS	COE	7 EU no 7d	none	DEEP	0	0	0	0	0	0	0	0	0	0
DS	COE	7 EU no 7d	PELAGIC TRAWLS	DEEP	5				0		0	0	0	0
DS	COE	7 EU no 7d	POTS	DEEP		83	0	0	0		0	0	0	0
DS	COE	7 EU no 7d	TRAMMEL	DEEP	0	0	0	0	48	0	0	0	122	79
DS	FOX	7 EU no 7d	BEAM	DEEP	1	1	1	1	0	0	2	3	0	2
DS	FOX	7 EU no 7d	BOTTOM TRAWLS	DEEP	64	70	75	55	37	30	25	15	11	17
DS	FOX	7 EU no 7d	GILL	DEEP	67	25	7	10	6	3	8	6	3	6
DS	FOX	7 EU no 7d	LONGLINE	DEEP	34	115	30	29	15	48	77	82	298	101
DS	FOX	7 EU no 7d	none	DEEP	0	0	0	0	0	0	0	0	0	0
DS	FOX	7 EU no 7d	PELAGIC TRAWLS	DEEP	10				0		0	0	0	0
DS	FOX	7 EU no 7d	TRAMMEL	DEEP	27	0	0	0	0		0	0	0	0
DS	RNG	7 EU no 7d	BOTTOM TRAWLS	DEEP	49	42	29	65	36	25	30	17	18	22
DS	RNG	7 EU no 7d	GILL	DEEP			1				0	0	0	0
DS	RNG	7 EU no 7d	LONGLINE	DEEP		0					0	0	0	0

Western Waters VII EU no VIId

Some discard information is available for this area, Tables 5.9.3.7.3 and 5.9.3.7.4. Discarding appears to take place in the bottom trawl fleet for haddock, hake and whiting, with a small amount for anglerfish also.

For anglerfish gill net CPUEs showed an increase up to 2009, but have declined since, while bottom trawl figures were reasonably stable up to 2009 but have fluctuated since. Trammel nets had the highest CPUEs up to 2009. In 2010 figures declined by 90%, but increased again in 2011.

Haddock bottom trawl CPUEs were stable to 2008, but are increasing since. Beam trawl CPUE has begun increasing since 2008.

Gill net and longline CPUEs for hake are increasing are increasing rapidly in the last number of years. CPUEs for bottom trawls are stable at low levels.

Bottom trawl CPUEs for whiting are reasonably constant through the time series.

Table 5.9.3.7.3 Area VII EU no VIId WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
ANF	7 EU no 7d	BEAM	none	159	195	197	243	279	286	326	373	442	382
ANF	7 EU no 7d	BOTTOM TRAWLS	none	215	223	211	250	274	260	283	192	326	265
ANF	7 EU no 7d	DREDGE	none	16	9	11	15	12	8	13	19	16	16
ANF	7 EU no 7d	GILL	none	327	376	520	428	546	750	768	404	501	559
ANF	7 EU no 7d	LONGLINE	none	10	1	6	0	1	0	0	0	0	0
ANF	7 EU no 7d	none	none	0	30	13	0	654	0	0	0	110	78
ANF	7 EU no 7d	PELAGIC TRAWLS	none	0	2	1	1	0	1	1	0	0	0
ANF	7 EU no 7d	POTS	none	2	1	0	1	1	1	0	1	0	0
ANF	7 EU no 7d	TRAMMEL	none	965	1251	1163	747	786	1112	1133	183	614	647
HAD	7 EU no 7d	BEAM	none	26	30	33	30	31	36	50	49	63	54
HAD	7 EU no 7d	BOTTOM TRAWLS	none	128	145	111	103	137	179	227	256	364	283
HAD	7 EU no 7d	DREDGE	none	0	1	0	0	0	0	0	0	0	0
HAD	7 EU no 7d	GILL	none	26	23	27	29	30	23	30	28	50	36
HAD	7 EU no 7d	LONGLINE	none	9	12	16	9	5	1	0	2	6	3
HAD	7 EU no 7d	none	none					0	0	0	0	74	52
HAD	7 EU no 7d	PELAGIC TRAWLS	none	1	4	1	0	0	0	0	0	1	0
HAD	7 EU no 7d	POTS	none	0	2	0	0	0	0	0	0	1	0
HAD	7 EU no 7d	TRAMMEL	none	0	0	0	0	1	0	1	2	2	2
HKE	7 EU no 7d	BEAM	none	8	6	5	6	6	5	7	9	8	8
HKE	7 EU no 7d	BOTTOM TRAWLS	none	53	56	61	57	55	57	56	78	89	75
HKE	7 EU no 7d	DREDGE	none	0	0	0	0	0	0	0	0	0	0
HKE	7 EU no 7d	GILL	none	343	333	352	427	335	278	425	965	1650	997
HKE	7 EU no 7d	LONGLINE	none	49	33	73	352	633	903	712	956	1027	899
HKE	7 EU no 7d	none	none			25		0		0	0	442	312
HKE	7 EU no 7d	PELAGIC TRAWLS	none	1	1	0	0	0	0	1	6	41	14
HKE	7 EU no 7d	POTS	none	0	0	0	0	0	0	0	0	1	0
HKE	7 EU no 7d	TRAMMEL	none	6	3	4	5	3	4	2	9	3	5
NEP	7 EU no 7d	BEAM	none	5	9	7	8	7	4	5	3	3	3
NEP	7 EU no 7d	BOTTOM TRAWLS	none	268	266	290	309	399	527	475	435	441	449
NEP	7 EU no 7d	DREDGE	none		1		0			0	0	0	0
NEP	7 EU no 7d	GILL	none	0	3	4	1	0	1	1	0	0	0
NEP	7 EU no 7d	LONGLINE	none	1						0	0	0	0
NEP	7 EU no 7d	none	none		0	63			0	0	0	129	91
NEP	7 EU no 7d	PELAGIC TRAWLS	none	1	7	3	0	1	0	0	0	1	0
NEP	7 EU no 7d	POTS	none	3	13	1	0	1	2	2	3	2	2
NEP	7 EU no 7d	TRAMMEL	none	1		0	0	0	0	0	2	2	1
WHG	7 EU no 7d	BEAM	none	19	17	19	11	13	16	12	14	16	14
WHG	7 EU no 7d	BOTTOM TRAWLS	none	220	200	267	218	210	159	187	216	253	220
WHG	7 EU no 7d	DREDGE	none	0	1	0	0	1	0	0	0	0	0
WHG	7 EU no 7d	GILL	none	25	22	17	11	9	9	8	9	15	11
WHG	7 EU no 7d	LONGLINE	none	2	7	5	7	4	1	1	3	13	6
WHG	7 EU no 7d	none	none	0	0	63			0	0	0	0	0
WHG	7 EU no 7d	PELAGIC TRAWLS	none	13	11	1	2	0	1	0	42	3	19
WHG	7 EU no 7d	POTS	none	0	1	0	0	0	0	0	3	7	4
WHG	7 EU no 7d	TRAMMEL	none	1	0	1	1	3	0	0	2	4	2

Table 5.9.3.7.4 Area VII EU no VIId WW CPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	CPUE 2009-2011
ANF	7 EU no 7d	BEAM	none	159	195	197	243	299	330	470	439	497	469
ANF	7 EU no 7d	BOTTOM TRAWLS	none	228	229	222	252	280	263	299	200	359	285
ANF	7 EU no 7d	DREDGE	none	16	9	11	15	12	8	13	19	20	17
ANF	7 EU no 7d	GILL	none	327	376	520	428	546	750	797	406	508	572
ANF	7 EU no 7d	LONGLINE	none	10	1	6	0	1	0	0	0	0	0
ANF	7 EU no 7d	none	none	0	30	13	0	654	0	0	0	110	78
ANF	7 EU no 7d	PELAGIC TRAWLS	none	0	3	1	1	0	1	1	0	0	0
ANF	7 EU no 7d	POTS	none	2	1	0	1	1	1	0	1	0	0
ANF	7 EU no 7d	TRAMMEL	none	965	1251	1163	747	786	1112	1133	185	635	655
HAD	7 EU no 7d	BEAM	none	26	31	34	30	49	125	86	112	164	122
HAD	7 EU no 7d	BOTTOM TRAWLS	none	330	333	231	233	225	317	583	645	751	662
HAD	7 EU no 7d	DREDGE	none	0	1	0	0	0	0	0	0	0	0
HAD	7 EU no 7d	GILL	none	26	23	27	29	30	23	30	28	50	36
HAD	7 EU no 7d	LONGLINE	none	9	12	16	9	5	1	0	2	6	3
HAD	7 EU no 7d	none	none					0	0	0	0	74	52
HAD	7 EU no 7d	PELAGIC TRAWLS	none	1	48	1	0	0	0	0	0	1	0
HAD	7 EU no 7d	POTS	none	0	2	0	0	0	0	0	0	1	0
HAD	7 EU no 7d	TRAMMEL	none	0	0	0	0	1	0	1	2	2	2
HKE	7 EU no 7d	BEAM	none	8	6	20	14	9	10	13	11	10	11
HKE	7 EU no 7d	BOTTOM TRAWLS	none	72	72	112	76	99	80	114	108	111	111
HKE	7 EU no 7d	DREDGE	none	0	0	0	0	0	0	0	0	0	0
HKE	7 EU no 7d	GILL	none	343	333	352	427	335	278	447	965	1658	1007
HKE	7 EU no 7d	LONGLINE	none	49	33	73	352	633	903	712	956	1027	899
HKE	7 EU no 7d	none	none			25		0		0	0	442	312
HKE	7 EU no 7d	PELAGIC TRAWLS	none	1	1	0	0	0	0	1	6	41	14
HKE	7 EU no 7d	POTS	none	0	1	0	0	0	0	0	0	1	0
HKE	7 EU no 7d	TRAMMEL	none	6	3	4	5	3	4	2	73	4	26
NEP	7 EU no 7d	BEAM	none	5	9	7	8	7	4	5	3	3	3
NEP	7 EU no 7d	BOTTOM TRAWLS	none	268	266	290	309	399	527	475	443	514	477
NEP	7 EU no 7d	DREDGE	none		1		0			0	0	0	0
NEP	7 EU no 7d	GILL	none	0	3	4	1	0	1	1	0	0	0
NEP	7 EU no 7d	LONGLINE	none	1						0	0	0	0
NEP	7 EU no 7d	none	none		0	63			0	0	0	129	91
NEP	7 EU no 7d	PELAGIC TRAWLS	none	1	7	3	0	1	0	0	0	1	0
NEP	7 EU no 7d	POTS	none	3	13	1	0	1	2	2	3	2	2
NEP	7 EU no 7d	TRAMMEL	none	1		0	0	0	0	0	2	2	1
WHG	7 EU no 7d	BEAM	none	20	116	19	11	39	39	21	23	35	26
WHG	7 EU no 7d	BOTTOM TRAWLS	none	304	376	413	287	534	305	471	334	358	385
WHG	7 EU no 7d	DREDGE	none	0	1	0	0	1	0	0	0	0	0
WHG	7 EU no 7d	GILL	none	25	22	17	11	10	9	9	9	15	11
WHG	7 EU no 7d	LONGLINE	none	2	7	5	7	4	1	1	3	13	6
WHG	7 EU no 7d	none	none	0	0	63			0	0	0	0	0
WHG	7 EU no 7d	PELAGIC TRAWLS	none	13	42	1	2	0	1	0	42	3	19
WHG	7 EU no 7d	POTS	none	0	11	0	0	0	0	0	3	7	4
WHG	7 EU no 7d	TRAMMEL	none	1	0	1	1	3	0	0	58	4	20

Deepwater VII non-EU

LPUE data is limited to only one species in one year

Western waters VII non-EU

There is no data.

5.9.3.8 CPUE and LPUE in ICES area VIId by fisheries and Member States

Deepwater

There is limited LPUE data from this area. In the last number of years it relates primarily to bottom trawling for red (blackspot) seabream.

Table 5.9.3.8.1 Area VIId DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	COE	7d	BEAM	DEEP	0	0	0		0	0	0	0	0	0
DS	COE	7d	BOTTOM TRAWLS	DEEP	0	0	0		0	8	0	0	0	0
DS	COE	7d	LONGLINE	DEEP		0	0	0	0	3497	3497	0	0	3098
DS	COE	7d	PELAGIC TRAWLS	DEEP			0		0	0	0	0	0	0
DS	RNG	7d	BOTTOM TRAWLS	DEEP	0	0	0				0	0	49	15
DS	SBL	7d	BOTTOM TRAWLS	DEEP	0	0	0				0	0	49	15
DS	SBL	7d	POTS	DEEP	0	0	0	0	0	0	0	0	0	0
DS	SBR	7d	BEAM	DEEP					0		0	0	0	0
DS	SBR	7d	BOTTOM TRAWLS	DEEP	0	0	0		35	83	168	117	25	112
DS	SCK	7d	BOTTOM TRAWLS	DEEP	0	0	0				0	59	0	15

Western waters

Some discard information is available for this area, Tables 5.9.3.8.2 and 5.9.3.8.3. Discarding appears to take place in the bottom trawl fleet for dab, plaice and whiting. There is also some discarding in beam trawls for dab, plaice and common sole. There is also an issue with the 2010 CPUE figures for bottom trawls with respect to dab and plaice.

Beam and bottom trawl CPUEs for plaice have shown an increase in 2011. Trammel net figures, which had been stable, increased in 2011. Gill net levels were stable up to 2010 and increased in 2011.

Beam trawl CPUEs for common sole dipped slightly in the mid 2000s, but have begun increasing again. Gill net CPUEs were quite stable with two large years in 2008 and 2009. Trammel net figures, which had been in decline, showed an increase in 2011.

Dab bottom trawl CPUEs were stable up to 2009, with a peak in 2007. The 2011 figure has increased greatly. Beam trawl CPUEs have shown a small increase in 2010 and 2011.Gill net CPUEs are stable.

Gill net CPUEs for cod are quite stable throughout the time series despite a slight dip in 2010. Trammel net figures were stable at a low level until 2010, when they began to increase. CPUEs from beam and bottom trawl are stable.

Bottom trawl CPUEs for whiting were reasonably constant up to 2009. In 2010 the figure increased dramatically before falling again in 2011. However the 2011 figure is still three times higher than the recent average.

Table 5.9.3.8.2 Area VIId WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
COD	7d	BEAM	none	15	12	19	23	22	40	23	20	21	21
COD	7d	BOTTOM TRAWLS	none	68	35	44	42	74	56	60	85	86	75
COD	7d	DREDGE	none	0	0	0	0	1	1	1	1	0	1
COD	7d	GILL	none	407	245	313	433	414	492	455	267	465	391
COD	7d	LONGLINE	none	32	41	29	26	20	19	19	12	32	20
COD	7d	none	none	13	29			0	112	112	0	0	110
COD	7d	PELAGIC TRAWLS	none	5	0	0	1	1	1	1	1	4	2
COD	7d	POTS	none	0	0	0	1	1	0	0	3	2	2
COD	7d	TRAMMEL	none	108	42	44	46	57	54	54	84	74	69
DAB	7d	BEAM	none	53	31	38	42	36	39	47	60	66	56
DAB	7d	BOTTOM TRAWLS	none	54	51	51	46	45	48	53	84	111	80
DAB	7d	DREDGE	none	0	1	1	1	0	1	1	0	0	0
DAB	7d	GILL	none	22	22	23	21	31	54	49	30	28	39
DAB	7d	LONGLINE	none	0			0			0	0	0	0
DAB	7d	none	none	26	69		0	0	12	12	0	0	12
DAB	7d	PELAGIC TRAWLS	none	1	1	1	0	0	1	1	1	2	1
DAB	7d	POTS	none	0	0	0	0	0	0	0	4	2	3
DAB	7d	TRAMMEL	none	21	17	20	19	17	23	23	29	52	33
PLE	7d	BEAM	none	423	365	405	341	400	448	414	548	575	500
PLE	7d	BOTTOM TRAWLS	none	106	92	82	62	56	63	65	120	141	104
PLE	7d	DREDGE	none	13	11	17	8	6	10	10	8	8	9
PLE	7d	GILL	none	120	127	233	52	136	120	115	111	254	139
PLE	7d	LONGLINE	none	0	0	0	6	0	0	6	0	0	2
PLE	7d	none	none	96	168	0	0	0	17	17	0	0	16
PLE	7d	PELAGIC TRAWLS	none	3	3	3	1	0	3	3	3	7	4
PLE	7d	POTS	none	0	0	0	0	1		0	7	6	5
PLE	7d	TRAMMEL	none	143	179	96	68	97	97	97	96	196	126
SOL	7d	BEAM	none	629	581	531	461	439	461	522	573	571	551
SOL	7d	BOTTOM TRAWLS	none	57	43	34	40	43	48	50	46	55	50
SOL	7d	DREDGE	none	7	10	12	5	2	5	5	9	7	7
SOL	7d	GILL	none	391	391	259	159	226	522	565	237	338	409
SOL	7d	LONGLINE	none	0			0		0	0	0	8	2
SOL	7d	none	none	296	289	405	61	51	37	37	0	0	37
SOL	7d	PELAGIC TRAWLS	none	5	3	3	3	1	5	4	4	8	5
SOL	7d	POTS	none	0	0	0	0	1	0	0	4	4	3
SOL	7d	TRAMMEL	none	593	516	458	373	445	493	491	327	643	489
WHG	7d	BEAM	none	18	12	15	17	17	16	19	25	23	22
WHG	7d	BOTTOM TRAWLS	none	466	327	323	229	201	318	331	606	716	530
WHG	7d	DREDGE	none	1	0	0	0	0	1	1	0	0	0
WHG	7d	GILL	none	7	14	27	18	10	12	11	30	14	18
WHG	7d	LONGLINE	none	0	0	0	0	0	0	0	0	0	0
WHG	7d	none	none	13	23		30	102	62	62	0	0	61
WHG	7d	PELAGIC TRAWLS	none	17	11	8	6	12	28	27	15	13	20
WHG	7d	POTS	none	0	0	0	0	0	0	0	2	6	3
WHG	7d	TRAMMEL	none	8	9	9	4	3	3	3	3	7	4

Table 5.9.3.8.3 Area VIId WW CPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	CPUE 2009-2011
COD	7d	BEAM	none	15	14	19	27	28	60	25	22	22	23
COD	7d	BOTTOM TRAWLS	none	68	35	44	42	74	57	60	90	86	77
COD	7d	DREDGE	none	0	0	0	0	1	1	1	1	0	1
COD	7d	GILL	none	407	245	313	433	414	492	455	281	465	397
COD	7d	LONGLINE	none	32	41	29	26	20	19	19	12	32	20
COD	7d	none	none	13	29			0	112	112	0	0	110
COD	7d	PELAGIC TRAWLS	none	5	0	0	1	1	1	1	1	4	2
COD	7d	POTS	none	0	0	0	1	1	0	0	3	2	2
COD	7d	TRAMMEL	none	108	42	44	46	57	54	54	85	446	180
DAB	7d	BEAM	none	89	44	97	69	46	57	71	105	125	96
DAB	7d	BOTTOM TRAWLS	none	112	108	51	57	108	48	62	10202	236	3216
DAB	7d	DREDGE	none	0	1	1	1	0	1	1	0	0	0
DAB	7d	GILL	none	22	22	23	21	31	54	49	67	56	57
DAB	7d	LONGLINE	none	0			0			0	0	0	0
DAB	7d	none	none	26	69		0	0	12	12	0	0	12
DAB	7d	PELAGIC TRAWLS	none	1	1	1	0	0	1	1	1	2	1
DAB	7d	POTS	none	0	0	0	0	0	0	0	4	2	3
DAB	7d	TRAMMEL	none	21	17	20	19	41	484	23	1148	75	363
PLE	7d	BEAM	none	425	505	442	393	431	524	484	677	799	631
PLE	7d	BOTTOM TRAWLS	none	123	220	82	69	56	65	66	19085	217	5929
PLE	7d	DREDGE	none	13	11	17	8	6	10	10	8	8	9
PLE	7d	GILL	none	120	127	233	52	136	120	115	111	888	255
PLE	7d	LONGLINE	none	0	0	0	6	0	0	6	0	0	2
PLE	7d	none	none	96	168	0	0	0	17	17	0	0	16
PLE	7d	PELAGIC TRAWLS	none	3	3	3	1	0	3	3	3	7	4
PLE	7d	POTS	none	0	0	0	0	1		0	7	6	5
PLE	7d	TRAMMEL	none	143	179	96	68	97	100	97	140	214	144
SOL	7d	BEAM	none	630	609	538	482	455	477	567	625	603	595
SOL	7d	BOTTOM TRAWLS	none	57	43	34	40	44	48	50	46	84	59
SOL	7d	DREDGE	none	7	10	12	5	2	5	5	9	7	7
SOL	7d	GILL	none	391	391	259	159	226	522	565	237	338	409
SOL	7d	LONGLINE	none	0			0		0	0	0	8	2
SOL	7d	none	none	296	289	405	61	51	37	37	0	0	37
SOL	7d	PELAGIC TRAWLS	none	5	3	3	3	1	5	4	4	8	5
SOL	7d	POTS	none	0	0	0	0	1	0	0	4	4	3
SOL	7d	TRAMMEL	none	593	516	458	373	453	493	491	336	648	493
WHG	7d	BEAM	none	19	20	18	22	19	22	21	34	28	27
WHG	7d	BOTTOM TRAWLS	none	597	338	323	229	205	339	355	2682	1170	1310
WHG	7d	DREDGE	none	1	0	0	0	0	1	1	0	0	0
WHG	7d	GILL	none	7	14	27	18	10	12	11	30	14	18
WHG	7d	LONGLINE	none	0	0	0	0	0	0	0	0	0	0
WHG	7d	none	none	13	23		30	102	62	62	0	0	61
WHG	7d	PELAGIC TRAWLS	none	17	11	8	6	12	28	27	106	13	51
WHG	7d	POTS	none	0	0	0	0	0	0	0	2	6	3
WHG	7d	TRAMMEL	none	8	9	9	4	5	7	3	27	7	11

5.9.3.9 CPUE and LPUE in the Biologically Sensitive Area by fisheries and Member States

There is no discard information is available for this area, Tables 5.9.3.9.1.

Gill nets have provided the highest LPUEs, increasing slowly between 2003 and 2010. In 2011 LPUE almost doubled. Bottom trawl had the second largest LPUEs, being stable from 2003 to 2007, and increasing gradually since then. Longlines recorded low LPUEs at the start of the series but have become more important in recent years. Beam trawl and trammel nets also contribute reasonably high LPUEs.

Beam trawl, bottom trawl, gill nets and trammel nets provide LPUEs for anglerfish. Figures for trammel nets declined until 2008 since when they have shown a recovery. In the early years of the series bottom trawls came second to trammel nets, but in recent years they produce the highest LPUEs. Beam trawl figures have also increased steadily since the start of the series. Gill net figures are stable at lower levels.

Bottom trawls provide the highest LPUEs for haddock. Figures were quite stable but have begun increasing in the last three years. Beam trawls and gill nets provide lower but increasing LPUEs.

Gill nets produced the highest LPUEs for hake, increasing slowly through the time series. The 2011 figure however is a 100% increase on 2010. Longline effort has also become very important, starting from a very low base, to producing the highest figure in 2011. Bottom trawls are a small but increasing source of effort.

Beam and bottom trawls produce similar LPUEs for megrim in 2011.

The greatest LPUEs for *Nephrops* come from bottom trawls. Having increased slightly between 2003 and 2009 figures have dropped back again in the last two years.

Table 5.9.3.9.1 BSA WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011
ANF	BSA	BEAM	none	66	90	131	214	213	338	500	476	494
ANF	BSA	BOTTOM TRAWLS	none	314	286	275	311	379	382	408	345	517
ANF	BSA	DREDGE	none	6	9	0	23	0	0	0	0	0
ANF	BSA	GILL	none	103	97	96	67	92	72	87	67	101
ANF	BSA	LONGLINE	none	11	0	0	0	0	3	7	0	0
ANF	BSA	none	none	0	0	0	0			0	0	0
ANF	BSA	PELAGIC TRAWLS	none	1	2	3	1	0	1	2	0	0
ANF	BSA	POTS	none	0	0		23	5	6	0	0	5
ANF	BSA	TRAMMEL	none	487	848	511	316	316	244	277	291	405
HAD	BSA	BEAM	none	40	52	61	75	87	130	140	133	112
HAD	BSA	BOTTOM TRAWLS	none	220	199	209	196	232	240	334	322	426
HAD	BSA	DREDGE	none	6	18	0	0			0	0	0
HAD	BSA	GILL	none	57	40	48	48	55	74	83	71	111
HAD	BSA	LONGLINE	none	21	86	31	12	0	0	0	0	0
HAD	BSA	none	none	0	0	0	0		0	0	0	0
HAD	BSA	PELAGIC TRAWLS	none	2	8	3	0	1	0	0	0	2
HAD	BSA	POTS	none	0	9	0	0	0	0	0	4	15
HAD	BSA	TRAMMEL	none	0	0	0	0	0	0	13	0	0
HKE	BSA	BEAM	none	22	17	16	23	30	29	25	43	45
HKE	BSA	BOTTOM TRAWLS	none	74	70	74	84	91	90	91	154	190
HKE	BSA	DREDGE	none	0	0				0	0	0	0
HKE	BSA	GILL	none	1076	1416	1379	1633	1646	1473	1724	1632	3091
HKE	BSA	LONGLINE	none	190	237	407	1017	1024	1305	999	2373	3131
HKE	BSA	none	none	0	0	0	0			0	0	12029
HKE	BSA	PELAGIC TRAWLS	none	1	1	0	0	0	0	1	8	61
HKE	BSA	POTS	none	20	0	0		0		0	0	10
HKE	BSA	TRAMMEL	none	0	0	0	35	0	0	0	73	0
LEZ	BSA	BEAM	none	157	227	239	269	256	280	409	440	419
LEZ	BSA	BOTTOM TRAWLS	none	114	110	128	132	151	184	248	392	401
LEZ	BSA	DREDGE	none	0	0	0	23			0	0	0
LEZ	BSA	GILL	none	8	6	8	4	4	6	5	17	10
LEZ	BSA	LONGLINE	none	11		0		0	0	0	0	0
LEZ	BSA	none	none	0	0	0	0			0	0	0
LEZ	BSA	PELAGIC TRAWLS	none	1	1	0	0	0	0	0	0	0
LEZ	BSA	POTS	none	0	0		0	0	6	0	4	0
LEZ	BSA	TRAMMEL	none	0	0	0	0	0	0	0	0	0
NEP	BSA	BEAM	none	17	25	36	37	45	30	31	17	17
NEP	BSA	BOTTOM TRAWLS	none	313	250	284	300	329	430	414	298	271
NEP	BSA	DREDGE	none		0					0	0	0
NEP	BSA	GILL	none	0	5	6	0		1	2	0	0
NEP	BSA	LONGLINE	none	11						0	0	0
NEP	BSA	none	none	0	0	0	0		0	0	0	0
NEP	BSA	PELAGIC TRAWLS	none	2	1	9	1	1	1	0	0	1
NEP	BSA	POTS	none	61	60	31		15	28	32	44	40
NEP	BSA	TRAMMEL	none	0						0	0	21

5.9.3.10 CPUE and LPUE in ICES area VIII by fisheries and Member States

Spanish data is lacking for this area for 2010 and 2011

Deepwater VIII EU

The highest CPUEs for conger eel are provided by longlines. Figures were stable up to 2008 before dropping 50% and stabilising again. Gill nets and bottom trawls provide some effort but figures fluctuate through the time series. Discard information is scarce but small differences appear between CPUE and LPUE for conger eel in the bottom trawl fishery in 2010, (Tables 5.9.3.10.1 and 5.9.3.10.2).

The importance of CPUEs from bottom trawls and gill nets for bluemouth redfish has been replaced in recent years by longlines.

CPUE data for forkbeard is mainly provided by Spain. As no data has been supplied in 2010 and 2011 it is difficult to analyse trends.

CPUEs for Wreckfish from longlining began in 2009 and are stable al a low level. Some effort is recorded by gill nets but it fluctuates.

Table 5.9.3.10.1 Area VIII EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	BRF	8 EU	BOTTOM TRAWLS	DEEP	3	13	30	108	46	44	41	6	0	27
DS	BRF	8 EU	GILL	DEEP	0	26	60	36	6	385	11	0	0	7
DS	BRF	8 EU	LONGLINE	DEEP	8	0	8	8	0	0	213	56	350	216
DS	BRF	8 EU	none	DEEP							0	0	0	0
DS	COE	8 EU	BEAM	DEEP	0	0	0	0	0	0	0	0	0	0
DS	COE	8 EU	BOTTOM TRAWLS	DEEP	12	16	9	4	9	11	16	0	0	10
DS	COE	8 EU	GILL	DEEP	0	40	42	5	6	96	11	13	0	10
DS	COE	8 EU	LONGLINE	DEEP	773	895	555	570	591	623	280	304	383	299
DS	COE	8 EU	none	DEEP	0		0		0		0	0	0	0
DS	COE	8 EU	TRAMMEL	DEEP	0					0	0	0	0	0
DS	fox	8 EU	BOTTOM TRAWLS	DEEP	46	13	9	4	21	379	25	0	0	16
DS	FOX	8 EU	GILL	DEEP	0	165	24	7		0	11	0	0	7
DS	FOX	8 EU	LONGLINE	DEEP	25	14	79	32	62	120	104	0	0	76
DS	fox	8 EU	none	DEEP	488	0	0	0	0	257	84	0	0	84
DS	SHO	8 EU	BOTTOM TRAWLS	DEEP	101	81	24	30	92	46	92	0	0	58
DS	SHO	8 EU	GILL	DEEP	0	7			0	0	6	0	0	3
DS	SHO	8 EU	LONGLINE	DEEP	0	0	24	32	35	32	16	0	0	12
DS	SHO	8 EU	none	DEEP	488	541	0	0	0	0	0	0	0	0
DS	SHO	8 EU	PELAGIC TRAWLS	DEEP						9679	1295	0	0	69
DS	SHO	8 EU	TRAMMEL	DEEP				0	0	0	0	0	0	0
DS	WRF	8 EU	BOTTOM TRAWLS	DEEP	0	0	0	0	0	11	5	6	0	4
DS	WRF	8 EU	GILL	DEEP	0		0	0	17	0	22	88	25	40
DS	WRF	8 EU	LONGLINE	DEEP	8		8	8	0	0	97	101	108	99
DS	WRF	8 EU	TRAMMEL	DEEP					0		0	0	0	0

Table 5.9.3.10.2 Area VIII EU DS CPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	UE 2009-20
DS	BRF	8 EU	BOTTOM TRAWLS	DEEP	3	13	30	108	46	44	41	6	0	27
DS	BRF	8 EU	GILL	DEEP	0	26	60	36	6	385	11	0	0	7
DS	BRF	8 EU	LONGLINE	DEEP	8	0	8	8	0	0	213	56	350	216
DS	BRF	8 EU	none	DEEP							0	0	0	0
DS	COE	8 EU	BEAM	DEEP	0	0	0	0	0	0	0	0	0	0
DS	COE	8 EU	BOTTOM TRAWLS	DEEP	12	16	9	4	9	11	16	6	0	11
DS	COE	8 EU	GILL	DEEP	0	40	42	5	6	96	11	13	0	10
DS	COE	8 EU	LONGLINE	DEEP	773	895	555	570	591	623	280	304	383	299
DS	COE	8 EU	none	DEEP	0		0		0		0	0	0	0
DS	COE	8 EU	TRAMMEL	DEEP	0					0	0	0	0	0
DS	fox	8 EU	BOTTOM TRAWLS	DEEP	46	13	9	4	21	379	25	0	0	16
DS	FOX	8 EU	GILL	DEEP	0	165	24	7		0	11	0	0	7
DS	FOX	8 EU	LONGLINE	DEEP	25	14	79	32	62	120	104	0	0	76
DS	fox	8 EU	none	DEEP	488	0	0	0	0	257	84	0	0	84
DS	SHO	8 EU	BOTTOM TRAWLS	DEEP	101	81	24	30	92	46	92	0	0	58
DS	SHO	8 EU	GILL	DEEP	0	7			0	0	6	0	0	3
DS	SHO	8 EU	LONGLINE	DEEP	0	0	24	32	35	32	16	0	0	12
DS	SHO	8 EU	none	DEEP	488	541	0	0	0	0	0	0	0	0
DS	SHO	8 EU	PELAGIC TRAWLS	DEEP						9679	1295	0	0	69
DS	SHO	8 EU	TRAMMEL	DEEP				0	0	0	0	0	0	0
DS	WRF	8 EU	BOTTOM TRAWLS	DEEP	0	0	0	0	0	11	5	6	0	4
DS	WRF	8 EU	GILL	DEEP	0		0	0	17	0	22	88	25	40
DS	WRF	8 EU	LONGLINE	DEEP	8		8	8	0	0	97	101	108	99
DS	WRF	8 EU	TRAMMEL	DEEP					0		0	0	0	0

Western Waters VIII EU

There is discard information is available for this area, Tables 5.9.3.10.3 and 5.9.3.10.4

Longline CPUEs have been reasonably stable through the time period. Gill net figures were also stable, although in 2010 and 2011 these have begun to increase. Bottom trawl CPUEs began increasing in 2007 and experienced a major spike in 2010. In 2011 this figure has fallen by 50% but it is still three times the recent average. Trammel net CPUEs had a slight dip in the mid 2000s but is slowly increasing. CPUE information from beam trawls is very sporadic.

Bottom trawl and gill nets produced similar CPUEs for anglerfish. However in 2011 CPUEs for bottom trawls increased greatly, while those for gill nets decreased. Beam trawl information is very patchy.

From 2005 longline CPUEs increased slowly to peak in 2007 and 2008. Since then they are declining slowly.

Bottom trawl and gill net CPUEs for hake increased greatly in 2010 and 2011, while those for longlines increased in 2011.

Bottom trawl CPUEs for *Nephrops* were stable up to 2009. They spiked in 2010 but reduced again in 2011. 2011 figures are twice those of the recent average.

Table 5.9.3.10.3 Area VIII EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
ANF	8 EU	BEAM	none	184	12	208	0		1136	0	0	0	0
ANF	8 EU	BOTTOM TRAWLS	none	180	199	184	167	255	222	221	247	676	315
ANF	8 EU	DREDGE	none	2	2	2	0	0	2	2	0	0	1
ANF	8 EU	GILL	none	173	286	265	236	256	244	249	73	164	187
ANF	8 EU	LONGLINE	none	0	1	1	2	11	3	1	0	1	1
ANF	8 EU	none	none	4	4	3	23	12	4	7	0	0	7
ANF	8 EU	PELAGIC TRAWLS	none	2	5	0	1	1	1	3	2	4	3
ANF	8 EU	POTS	none	0	2	0	0	1	0	2	0	0	1
ANF	8 EU	TRAMMEL	none	195	283	136	112	95	120	128	26	135	120
COE	8 EU	BEAM	none	0	0	0	0		0	0	0	0	0
COE	8 EU	BOTTOM TRAWLS	none	11	14	15	16	57	68	22	21	49	27
COE	8 EU	DREDGE	none	7	2	2	3	2	2	0	0	0	0
COE	8 EU	GILL	none	3	6	9	3	2	5	3	2	1	2
COE	8 EU	LONGLINE	none	1467	1300	789	801	1012	1030	928	706	678	769
COE	8 EU	none	none	0	0	0	0	0	0	0	0	0	0
COE	8 EU	PELAGIC TRAWLS	none	0	0	0	0	0	0	0	1	0	0
COE	8 EU	POTS	none	3	8	1	1	4		0	8	12	8
COE	8 EU	TRAMMEL	none	3	5	3	2	2	3	3	5	2	3
HKE	8 EU	BEAM	none	22	16	18	0		0	0	0	0	0
HKE	8 EU	BOTTOM TRAWLS	none	125	127	162	204	624	704	476	1137	868	671
HKE	8 EU	DREDGE	none	7	0	4	5	2	2	2	8	0	3
HKE	8 EU	GILL	none	880	746	798	453	650	1039	1066	2301	3245	1813
HKE	8 EU	LONGLINE	none	239	147	139	124	179	351	496	463	744	573
HKE	8 EU	none	none	12	10	9	7	8	19	25	0	7	24
HKE	8 EU	PELAGIC TRAWLS	none	22	7	22	15	30	11	8	50	187	45
HKE	8 EU	POTS	none	3	1	0	0	0	11	11	7	11	9
HKE	8 EU	TRAMMEL	none	80	65	26	18	37	40	45	21	36	42
NEP	8 EU	BEAM	none	5	6	9				0	1019	0	447
NEP	8 EU	BOTTOM TRAWLS	none	100	104	114	93	87	99	100	166	216	135
NEP	8 EU	DREDGE	none	0	0	4	0	0	2	2	16	0	4
NEP	8 EU	GILL	none	0	1	0	0	0	1	1	0	0	0
NEP	8 EU	LONGLINE	none	0	0			0	0	0	1	196	69
NEP	8 EU	none	none	1	0	0	0	0	0	0	0	0	0
NEP	8 EU	PELAGIC TRAWLS	none	0		0	0	0	5	4	1	8	4
NEP	8 EU	POTS	none	4	5	19	3	3	2	2	4	6	4
NEP	8 EU	TRAMMEL	none	0	1	0	1	0	0	0	3	2	0
WHG	8 EU	BEAM	none	2	0	3				0	0	0	0
WHG	8 EU	BOTTOM TRAWLS	none	18	22	22	15	26	47	30	310	203	114
WHG	8 EU	DREDGE	none	5	5	2	2	0	0	0	0	0	0
WHG	8 EU	GILL	none	24	12	10	11	10	10	10	11	8	10
WHG	8 EU	LONGLINE	none	15	90	117	126	249	145	137	124	147	136
WHG	8 EU	none	none	0	0		0	1	0	0	0	13	1
WHG	8 EU	PELAGIC TRAWLS	none	11	10	13	8	15	7	5	55	32	19
WHG	8 EU	POTS	none					0		0	1	43	16
WHG	8 EU	TRAMMEL	none	22	15	10	13	12	16	16	10	10	15

Table 5.9.3.10.4 Area VIII EU WW CPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008	CPUE 2009	CPUE 2010	CPUE 2011	CPUE 2009-2011
ANF	8 EU	BEAM	none	184	12	208	0		1136	0	0	0	0
ANF	8 EU	BOTTOM TRAWLS	none	180	199	184	167	255	222	221	256	715	325
ANF	8 EU	DREDGE	none	2	2	2	0	0	2	2	0	0	1
ANF	8 EU	GILL	none	173	286	265	236	256	244	249	73	164	187
ANF	8 EU	LONGLINE	none	0	1	1	2	11	3	1	0	1	1
ANF	8 EU	none	none	4	4	3	23	12	4	7	0	0	7
ANF	8 EU	PELAGIC TRAWLS	none	2	5	0	1	1	1	3	2	4	3
ANF	8 EU	POTS	none	0	2	0	0	1	0	2	0	0	1
ANF	8 EU	TRAMMEL	none	195	283	136	112	95	120	128	35	141	121
COE	8 EU	BEAM	none	0	0	0	0		0	0	0	0	0
COE	8 EU	BOTTOM TRAWLS	none	11	14	15	16	57	68	22	86	86	46
COE	8 EU	DREDGE	none	7	2	2	3	2	2	0	0	0	0
COE	8 EU	GILL	none	3	6	9	3	2	5	3	2	1	2
COE	8 EU	LONGLINE	none	1467	1300	789	801	1012	1030	928	706	678	769
COE	8 EU	none	none	0	0	0	0	0	0	0	0	0	0
COE	8 EU	PELAGIC TRAWLS	none	0	0	0	0	0	0	0	1	0	0
COE	8 EU	POTS	none	3	8	1	1	4		0	8	12	8
COE	8 EU	TRAMMEL	none	3	5	3	2	2	3	3	40	2	6
HKE	8 EU	BEAM	none	22	16	18	0		0	0	0	0	0
HKE	8 EU	BOTTOM TRAWLS	none	125	136	187	282	716	819	568	1234	2312	1030
HKE	8 EU	DREDGE	none	7	0	4	5	2	2	2	8	0	3
HKE	8 EU	GILL	none	880	746	798	453	650	1039	1066	2547	3274	1881
HKE	8 EU	LONGLINE	none	239	147	139	124	179	351	496	463	744	573
HKE	8 EU	none	none	12	10	9	7	8	19	25	0	7	24
HKE	8 EU	PELAGIC TRAWLS	none	22	7	22	15	30	11	8	54	187	46
HKE	8 EU	POTS	none	3	1	0	0	0	11	11	7	11	9
HKE	8 EU	TRAMMEL	none	80	65	26	18	37	40	45	107	46	50
NEP	8 EU	BEAM	none	5	6	9				0	1019	0	447
NEP	8 EU	BOTTOM TRAWLS	none	100	104	114	93	87	99	100	1807	216	427
NEP	8 EU	DREDGE	none	0	0	4	0	0	2	2	16	0	4
NEP	8 EU	GILL	none	0	1	0	0	0	1	1	0	0	0
NEP	8 EU	LONGLINE	none	0	0			0	0	0	1	196	69
NEP	8 EU	none	none	1	0	0	0	0	0	0	0	0	0
NEP	8 EU	PELAGIC TRAWLS	none	0		0	0	0	5	4	1	8	4
NEP	8 EU	POTS	none	4	5	19	3	3	2	2	4	6	4
NEP	8 EU	TRAMMEL	none	0	1	0	1	0	0	0	3	2	0
WHG	8 EU	BEAM	none	2	0	3				0	0	0	0
WHG	8 EU	BOTTOM TRAWLS	none	18	22	22	15	26	47	30	4410	203	844
WHG	8 EU	DREDGE	none	5	5	2	2	0	0	0	0	0	0
WHG	8 EU	GILL	none	24	12	10	11	10	10	10	330	8	91
WHG	8 EU	LONGLINE	none	15	90	117	126	249	145	137	124	147	136
WHG	8 EU	none	none	0	0		0	1	0	0	0	13	1
WHG	8 EU	PELAGIC TRAWLS	none	11	10	13	8	15	7	5	55	32	19
WHG	8 EU	POTS	none					0		0	1	43	16
WHG	8 EU	TRAMMEL	none	22	15	10	13	12	16	16	42	32	19

Deepwater VIII non-EU

LPUE information was only supplied for this area by Scotland in 2006.

Table 5.9.3.10.5 Area VIII non-EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	CMO	8 non EU	GILL	DEEP	0	0	0	114	0	0	0	0	0	0
DS	CYO	8 non EU	GILL	DEEP	0	0	0	29	0	0	0	0	0	0
DS	CYP	8 non EU	GILL	DEEP	0	0	0	114	0	0	0	0	0	0
DS	DCA	8 non EU	GILL	DEEP	0	0	0	29	0	0	0	0	0	0

Western waters VIII non-EU

LPUE information was only supplied for this area by France for 2011.

Table 5.9.3.10.6 Area VIII non-EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
ANF	8 non EU	BOTTOM TRAWLS	none	0	0	0		0	0	0	0	935	651
CSH	8 non EU	BOTTOM TRAWLS	none	0	0	0		0	0	0	357	0	108
HAD	8 non EU	BOTTOM TRAWLS	none	0	0	0		0	0	0	0	312	217
HKE	8 non EU	BOTTOM TRAWLS	none	0	0	0	631	0	0	0	0	156	108
HKE	8 non EU	GILL	NONE	0	0	0		0	0	0	0	4183	4183
LEZ	8 non EU	BOTTOM TRAWLS	none	0	0	0		0	0	0	0	468	325

5.9.3.11 CPUE and LPUE in ICES area IX by fisheries and Member States

Deepwater IX EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal. Spanish data is lacking for this area for 2010 and 2011

Table 5.9.3.11.1 Area IX EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	BSF	9 EU	BOTTOM TRAWLS	DEEP				30504	18195	16169	16747	61482	31459	24906
DS	BSF	9 EU	LONGLINE	DEEP	1364880	200038	2947236	2647922	3387275	3829923	3969720	4614483	4766455	4421767
DS	BSF	9 EU	TRAMMEL	DEEP						53036	0	0	0	0
DS	COE	9 EU	BOTTOM TRAWLS	DEEP		626	1244	1465	274	476	2886	0	21504	4669
DS	COE	9 EU	GILL	DEEP		0	34506		1774		2204	2038	2273	2182
DS	COE	9 EU	LONGLINE	DEEP	43208	33172	57112	62577	57761	39051	26572	20573	26478	24638
DS	COE	9 EU	POTS	DEEP	0		508475	140902	450038		96203	410000	78431	140432
DS	COE	9 EU	TRAMMEL	DEEP			1338		2148	15915	0	476	0	209
DS	CYO	9 EU	BOTTOM TRAWLS	DEEP				865	249		0	0	0	0
DS	CYO	9 EU	GILL	DEEP		0		192	2555	4415	13222	0	0	9030
DS	CYO	9 EU	LONGLINE	DEEP	718797	1241309	756377	399460	131428	58310	28721	4545	65275	32389
DS	CYO	9 EU	POTS	DEEP	0	6723861		8339			0	0	0	0
DS	CYO	9 EU	TRAMMEL	DEEP	2399	4151	13155		48458	34109	6398	0	0	2719
DS	GUQ	9 EU	BOTTOM TRAWLS	DEEP			61		75		0	0	0	0
DS	GUQ	9 EU	GILL	DEEP		0	57510	2980	17142	5008	0	0	0	0
DS	GUQ	9 EU	LONGLINE	DEEP	434234	335014	490911	433803	199176	82331	23156	1882	64173	29130
DS	GUQ	9 EU	PELAGIC TRAWLS	DEEP		0			0		510949	0	0	344828
DS	GUQ	9 EU	POTS	DEEP	0	809651			73629		0	0	0	0
DS	GUQ	9 EU	TRAMMEL	DEEP			18283	17915	45594	7774	17227	4759	0	9413
DS	SYR	9 EU	BOTTOM TRAWLS	DEEP							0	0	12851	1517
DS	SYR	9 EU	DREDGE	DEEP	0	0			0	0	0	5393258	0	5393258
DS	SYR	9 EU	LONGLINE	DEEP					79562	137739	112443	182333	6809	101853
DS	SYR	9 EU	POTS	DEEP	0					106189	0	0	0	0
DS	SYR	9 EU	TRAMMEL	DEEP						7693	0	0	0	0

Western Waters IX EU

Note: a discussion of the demersal data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.11.2 Area IX EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
ANF	9 EU	BEAM	none	0	0	0	0	0	0	0	0	0	0
ANF	9 EU	BOTTOM TRAWLS	none	4496	2099	2054	4763	14606	10737	10783	13687	26079	15755
ANF	9 EU	GILL	none	29965	27140	15457	18043	32228	6491	11547	8814	51273	15617
ANF	9 EU	LONGLINE	none	882	24675	14	361	5408	47	264	2930	0	744
ANF	9 EU	none	none	12	6	3	3	6	11	7	0	0	7
ANF	9 EU	PELAGIC TRAWLS	none	0	2	0	2	0	0	0	0	0	0
ANF	9 EU	POTS	none	32	2	515	1519	1842	1678	1756	8722	4104	3479
ANF	9 EU	TRAMMEL	none	47420	7159	79034	75527	93419	68541	73942	58422	77657	70157
COE	9 EU	BOTTOM TRAWLS	none	223	211	266	292	1119	662	1670	2797	3822	2586
COE	9 EU	GILL	none	18		429	3028	1110	263	455	550	3153	813
COE	9 EU	LONGLINE	none	52496	73736	49604	4254	61295	84942	79212	624108	399469	242867
COE	9 EU	POTS	none	275	2208	23766	53834	61309	63774	80477	258200	243605	144990
COE	9 EU	TRAMMEL	none	16754	3695	2731	7066	16927	8272	7627	11688	8459	9192
HKE	9 EU	BEAM	none	0	0	0	40	36	165	61	0	0	61
HKE	9 EU	BOTTOM TRAWLS	none	21761	22416	38627	63343	65982	89511	99357	115430	84487	100211
HKE	9 EU	DREDGE	none							0	0	0	0
HKE	9 EU	GILL	none	96155	21149	117850	197114	436699	511194	377417	860175	903283	582979
HKE	9 EU	LONGLINE	none	12517	3313	126673	76626	96877	98656	151030	622034	482542	302083
HKE	9 EU	none	none	20	18	9	10	38	45	43	0	0	43
HKE	9 EU	PELAGIC TRAWLS	none	0	0	2	0	4	1	2	0	0	2
HKE	9 EU	POTS	none	2041	3	51	2517	55965	3303	2164	11747	51913	13796
HKE	9 EU	TRAMMEL	none	7790	12421	100480	82860	144603	86201	122867	147657	234122	166233
RAJ	9 EU	BEAM	none	0	0	0				0	0	0	0
RAJ	9 EU	BOTTOM TRAWLS	none	11	67	2332	6122	10994	17132	26942	44136	55075	39655
RAJ	9 EU	DREDGE	none		0					0	0	0	0
RAJ	9 EU	GILL	none	119	11	698	2567	10838	4207	2784	13274	15724	7436
RAJ	9 EU	LONGLINE	none			1660	938	20083	15523	7287	53419	42191	22509
RAJ	9 EU	none	none	20	12	6	6	6	5	12	0	0	12
RAJ	9 EU	PELAGIC TRAWLS	none	0			0	0	0	0	0	0	0
RAJ	9 EU	POTS	none	0	2	1562	2350	2622	7453	7870	19682	18489	12114
RAJ	9 EU	TRAMMEL	none	739	484	31170	64869	87293	83939	101929	151075	144380	131180
SOL	9 EU	BEAM	none	0	0	0	40	36	55	61	0	0	61
SOL	9 EU	BOTTOM TRAWLS	none	333	15	543	1124	2251	2677	3003	2917	4901	3485
SOL	9 EU	DREDGE	none		0		0		0	0	0	0	0
SOL	9 EU	GILL	none	289	11	972	1605	2723	1969	387	572	938	509
SOL	9 EU	LONGLINE	none				0		356	51	2166	0	459
SOL	9 EU	none	none	8	6	3	3	3	3	4	0	0	4
SOL	9 EU	PELAGIC TRAWLS	none	0	0	0	0		0	0	0	0	0
SOL	9 EU	POTS	none	17	0	292	927	1021	2534	1633	7014	3663	3007
SOL	9 EU	TRAMMEL	none	14339	3543	44785	29901	418069	61512	62707	91788	90707	80933

Deepwater IX non-EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.11.3 Area IX non-EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	BRF	9 non EU	BOTTOM TRAWLS	DEEP		1537	3962	240	1883		598	1872	0	710
DS	BRF	9 non EU	GILL	DEEP		0			3017	24710	6941	4077	0	5493
DS	BRF	9 non EU	LONGLINE	DEEP	10685	1351	10291	11866	54169	25182	19608	24424	20929	21548
DS	BRF	9 non EU	none	DEEP				0	0		0	0	0	0
DS	BRF	9 non EU	POTS	DEEP	0			9408	129226		0	0	13072	3086
DS	BRF	9 non EU	TRAMMEL	DEEP			16722	6125	1989	17462	0	714	42471	6066
DS	BSF	9 non EU	BOTTOM TRAWLS	DEEP				30504	18195	16169	16747	61482	31459	24906
DS	BSF	9 non EU	LONGLINE	DEEP	1364880	200038	2947236	2647922	3387275	3829923	3969720	4614483	4766455	4421767
DS	BSF	9 non EU	TRAMMEL	DEEP						53036	0	0	0	0
DS	COE	9 non EU	BOTTOM TRAWLS	DEEP		626	1244	1465	274	476	2886	0	21504	4669
DS	COE	9 non EU	GILL	DEEP		0	34506		1774		2204	2038	2273	2182
DS	COE	9 non EU	LONGLINE	DEEP	43208	33172	57112	62577	57761	39051	26572	20573	26478	24638
DS	COE	9 non EU	POTS	DEEP	0		508475	140902	450038		96203	410000	78431	140432
DS	COE	9 non EU	TRAMMEL	DEEP			1338		2148	15915	0	476	0	209
DS	SFS	9 non EU	BOTTOM TRAWLS	DEEP					75		0	535	0	77
DS	SFS	9 non EU	LONGLINE	DEEP	7171	3541	892	22	1311	618	115	221	451	253
DS	WRF	9 non EU	BOTTOM TRAWLS	DEEP				135			0	0	0	0
DS	WRF	9 non EU	GILL	DEEP		0	92016		887	18187	4958	4077	0	4139
DS	WRF	9 non EU	LONGLINE	DEEP	20995	26043	117082	58242	59222	39472	24760	11175	17641	18236
DS	WRF	9 non EU	POTS	DEEP	0			46397	108941		0	0	0	0
DS	WRF	9 non EU	TRAMMEL	DEEP			4459	66988	20808	60037	92285	24982	40541	55692

Western waters IX non-EU

Note: a discussion of the demersal data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.11.4 Area IX non-EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
BRF	9 non EU	LONGLINE	NONE			1900	420044	184502	142239	214663	102868	136981	185166
BRF	9 non EU	TRAMMEL	NONE	310	0		0	0	0	0	0	0	0
COE	9 non EU	BOTTOM TRAWLS	NONE	160			0	0	0	0	0	0	0
COE	9 non EU	GILL	NONE	165		142	0	0	0	0	0	0	0
COE	9 non EU	LONGLINE	NONE	87254	273220	139349	1897568	535055	445903	900289	1169576	1347955	1023387
COE	9 non EU	POTS	NONE	74766	0	201070	0	0	0	0	0	0	0
COE	9 non EU	TRAMMEL	NONE	30277	0	1414	0	0	0	0	0	0	0
GAG	9 non EU	LONGLINE	NONE							0	0	15610	3118
POK	9 non EU	BOTTOM TRAWLS	NONE	1643			0	0	0	0	0	0	0
POK	9 non EU	LONGLINE	NONE	9						69	0	0	47
RAJ	9 non EU	GILL	NONE	3303			0	0	0	0	0	0	0
RAJ	9 non EU	LONGLINE	NONE	1614		2824		52891	34074	23600	83541	16781	29733
RAJ	9 non EU	TRAMMEL	NONE	3226	0	70984	0	0	0	0	0	0	0

5.9.3.12 CPUE and LPUE in ICES area X by fisheries and Member States

Deepwater X EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.12.1 Area X EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	GSK	10 EU	LONGLINE	DEEP		0	0	25323	0	0	0	0	0	0
DS	GUP	10 EU	LONGLINE	DEEP	601304	0	0	6664	0	0	0	0	0	0

Western Waters X EU

Note: a discussion of the demersal data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.12.2 Area X EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
ANF	10 EU	BOTTOM TRAWLS	none	0	0	0	0	5333	0	0	0	0	0
HKE	10 EU	BOTTOM TRAWLS	none	0	0	0	0	13333	0	0	0	0	0
NEP	10 EU	BOTTOM TRAWLS	none	0	0	0	0	306667	0	0	0	0	0
SOL	10 EU	TRAMMEL	NONE	0	0	0	0	0	0	0	0	0	0

Deepwater X non-EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.12.3 Area X non-EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	ALF	10 non EU	LONGLINE	DEEP			392		22808	0	9282	0	0	9282
DS	ALF	10 non EU	PELAGIC TRAWLS	DEEP	0	0	1636784	0	0	0	0	0	0	0
DS	BRF	10 non EU	LONGLINE	DEEP					25505	0	23810	0	0	23810
DS	COE	10 non EU	LONGLINE	DEEP			16253			0	594835	0	0	594835
DS	FOX	10 non EU	LONGLINE	DEEP			313		3679	0	178773	0	0	178773
DS	GUP	10 non EU	LONGLINE	DEEP	696561	727175	735519	742358		0	7264	0	0	7264

Western waters X non-EU

Note: a discussion of the demersal data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.12.4 Area X non-EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
ANF	10 non EU	BOTTOM TRAWLS	none	0			0	0	0	0	0	0	0
ANF	10 non EU	POTS	NONE	0	0	0	0	0		12914	0	0	12544
ANF	10 non EU	TRAMMEL	none	0	0	0	0	0	0	0	0	0	0
BRF	10 non EU	LONGLINE	none					0		15720	0	0	8708
BRF	10 non EU	POTS	NONE	0	0	0	0	0		23810	0	0	23128
COE	10 non EU	BOTTOM TRAWLS	none	0			0	0	0	0	0	0	0
COE	10 non EU	LONGLINE	none			10547		0		343266	2808	0	190850
COE	10 non EU	POTS	NONE	0	0	0	0	0		594835	0	0	577813
NEP	10 non EU	BOTTOM TRAWLS	none	0			0	0	0	0	331	0	156
RAJ	10 non EU	LONGLINE	none					0		56468	0	0	31281
RAJ	10 non EU	POTS	NONE	0	0	0	0	0		25424	0	0	24696

5.9.3.13 CPUE and LPUE in ICES area XII by fisheries and Member States only linked to Deep Sea species

Spanish data is lacking for this area for 2010 and 2011

Bottom trawl LPUEs for roundnose grenadier was reasonably stable up to 2009. However as Spanish data is missing for 2010 and 2011 it is not possible to analyse the dataset properly.

Table 5.9.3.13.1 Area XII non-EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	ALC	12 non EU	BOTTOM TRAWLS	DEEP			251	2712	255	0	0	0	0	0
DS	BLI	12 non EU	BOTTOM TRAWLS	DEEP	122		1755	36	198	0	103	0	0	103
DS	BLI	12 non EU	PELAGIC TRAWLS	DEEP				0	0	0	0	0	0	0
DS	BSF	12 non EU	BOTTOM TRAWLS	DEEP	24		0	71	198	0	44	389	181	46
DS	BSF	12 non EU	PELAGIC TRAWLS	DEEP				0	0	0	9	0	0	9
DS	CYO	12 non EU	BOTTOM TRAWLS	DEEP	24		0	36		0	5	0	0	5
DS	CYO	12 non EU	GILL	DEEP		173	555		0	0	0	0	0	0
DS	CYO	12 non EU	LONGLINE	DEEP	2963		0	0	0	0	0	0	0	0
DS	CYO	12 non EU	PELAGIC TRAWLS	DEEP				0	0	0	4	0	0	4
DS	RNG	12 non EU	BOTTOM TRAWLS	DEEP	0		1671	963	3963	0	1169	389	0	1164
DS	RNG	12 non EU	PELAGIC TRAWLS	DEEP				0	0	0	251	0	0	251

5.9.3.14 CPUE and LPUE in ICES area XIV by fisheries and Member States only linked to Deep Sea species

Spanish data is lacking for this area for 2010 and 2011

LPUEs are provided for blue ling and roundnose grenadier but at very low levels.

Table 5.9.3.14.1 Area XIV non-EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	ALC	14 non EU	BOTTOM TRAWLS	DEEP		0					0	0	0	0
DS	BLI	14 non EU	BOTTOM TRAWLS	DEEP	3	3	12			1	32	2	3	13
DS	BSF	14 non EU	BOTTOM TRAWLS	DEEP							0	0	0	0
DS	ORY	14 non EU	BOTTOM TRAWLS	DEEP		2			0		0	1	0	0
DS	RNG	14 non EU	BOTTOM TRAWLS	DEEP	23	10	8	14	12	9	11	19	13	14

5.9.3.15 CPUE and LPUE in CECAF area 34.1.1 by fisheries and Member States

Deepwater 34.1.1 EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.15.1 CECAF Area 34.1.1 EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	COE	34.1.1 EU	LONGLINE	DEEP	851426	0	94690	566514	545852	565822	589837	1037284	0	721919
DS	COE	34.1.1 EU	TRAMMEL	DEEP	0	172755	0	0	0	0	0	0	0	0
DS	CYO	34.1.1 EU	LONGLINE	DEEP		0		2488			926346	0	0	652898
DS	FOX	34.1.1 EU	LONGLINE	DEEP	425713	0	25258	84942	208515	204642	88475	221179	0	127648
DS	FOX	34.1.1 EU	TRAMMEL	DEEP	0	185647	0	0	0	0	0	0	0	0
DS	SFS	34.1.1 EU	LONGLINE	DEEP		0			17467	78407	148783	70416	0	125650
DS	SFS	34.1.1 EU	TRAMMEL	DEEP	0	24925	0	0	0	0	0	0	0	0
DS	WRF	34.1.1 EU	LONGLINE	DEEP	106428	0	74807	557629	633188	578564	417801	292498	0	380813
DS	WRF	34.1.1 EU	TRAMMEL	DEEP	0	137946	0	0	0	0	0	0	0	0

Western Waters 34.1.1 EU

Note: a discussion of the demersal data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.15.2 CECAF Area 34.1.1 EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
ANF	34.1.1 EU	LONGLINE	NONE					1453	870	730	0	0	288
BRF	34.1.1 EU	LONGLINE	NONE				240595	150712	149983	92937	37101	28561	56610
CAT	34.1.1 EU	LONGLINE	NONE					21063		0	0	0	0
COE	34.1.1 EU	LONGLINE	NONE	745951	1512930	1224905	1497443	515689	658653	968958	857483	1233571	1011872
RAJ	34.1.1 EU	LONGLINE	NONE				46110	55927	13910	26368	9008	55220	29422

Western waters CECAF 34.1.1 non-EU

Note: a discussion of the demersal data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.15.3 CECAF Area 34.1.1 non-EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
BRF	34.1.1 NON EU	LONGLINE	NONE		0	20840	0	105860	28263	117819	97201	216316	135694
COE	34.1.1 NON EU	LONGLINE	NONE	990695	0	434278	0	339978	156339	267734	335146	372762	322065
DGS	34.1.1 NON EU	LONGLINE	NONE		0		0	754	8360	4413	1554	0	2120
HKE	34.1.1 NON EU	BOTTOM TRAWLS	NONE	0	0	0	0	0	0	164327	106792	0	127603
HKE	34.1.1 NON EU	LONGLINE	NONE		0		0	5103	50	30357	377763	28404	166909
RAJ	34.1.1 NON EU	LONGLINE	NONE		0		0	11991	64075	31886	21424	15684	23480

5.9.3.16 CPUE and LPUE in CECAF area 34.1.2 by fisheries and Member States

Deepwater CECAF 34.1.2 EU

Note: a discussion of the deepwater data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.16.1 CECAF Area 34.1.2 EU DS LPUE (g/(kW*days)), 2003-2011.

ANNEX	SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	UE 2009-20
DS	ALF	34.1.2 EU	LONGLINE	DEEP	0	11401			13079	19074	81571	100452	542784	225975
DS	BRF	34.1.2 EU	LONGLINE	DEEP	0			118978	181769	126471	64768	44342	580332	216741
DS	COE	34.1.2 EU	LONGLINE	DEEP	0	591951	641457	1270564	582199	683668	562803	467042	54725	386673
DS	SFS	34.1.2 EU	LONGLINE	DEEP	0	29643	21327		201	4665	454828	6310	0	214627
DS	WRF	34.1.2 EU	LONGLINE	DEEP	0	450462	217373	837250	685827	405328	405662	106080	20370	220466

Western Waters **CECAF 34.1.2 EU**

Note: a discussion of the demersal data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.16.2 CECAF Area 34.1.2 EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
ANF	34.1.2 EU	LONGLINE	NONE			950				0	0	0	0
BRF	34.1.2 EU	LONGLINE	NONE			21434	167551	169654	94569	79258	65648	277206	146728
COE	34.1.2 EU	LONGLINE	NONE	761173	517010	1360239	725063	1345485	570460	583366	993166	1307543	919119
COE	34.1.2 EU	TRAMMEL	NONE	0	172755	0	0	0	0	0	0	0	0
POK	34.1.2 EU	LONGLINE	NONE							0	2583	0	500
RAJ	34.1.2 EU	LONGLINE	NONE			2510	12108	8700	16397	24164	28573	61262	38155

5.9.3.17 CPUE and LPUE in CECAF area 34.1.3 by fisheries and Member States

No analyses done.

5.9.3.18 CPUE and LPUE in CECAF area 34.2 by fisheries and Member States

Western waters CECAF 34.2.0 non-EU

Note: a discussion of the demersal data can't be undertaken due to discrepancies in the data submitted by Portugal.

Table 5.9.3.17.1 CECAF Area 34.2.0 non-EU WW LPUE (g/(kW*days)), 2003-2011.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008	LPUE 2009	LPUE 2010	LPUE 2011	LPUE 2009-2011
BRF	34.2.0 non EU	LONGLINE	NONE	0	0		17523	46183	37900	0	243079	127166	202878
COE	34.2.0 non EU	LONGLINE	NONE	0	0		225055	621495	242420	0	633862	731203	667622
POL	34.2.0 non EU	LONGLINE	NONE	0	0					0	549	0	358
RAJ	34.2.0 non EU	LONGLINE	NONE	0	0		13744			0	155300	5961	103506

5.9.4 ToR 2 Comments on quality of catch and discard estimates

Discard information is on deepwater stocks is scarce.

For Western waters stocks the information presented here is for the top 5 demersal species only. Discard information is available for a limited set of the data. Analysis of trends in certain areas has been hampered by the discrepancies in the data submitted by Portugal, and the lack of data being submitted by Spain for 2010 and 2011.

5.9.5 ToR 3 Potential requirement, provision, process, and evaluation of VMS data to Deep Sea fisheries management

Additional data on fishing depth and VMS position could be useful to the deepwater data analysis. The Group feel that VMS data would be highly valuable in improving the analysis and interpretation of deep sea fisheries through the identification of individual fisheries at a fine scale.

Since fishing depth data may not be regularly recorded by vessel logbooks it could be possible to estimate depth from VMS data. If VMS were to be used it should be limited to aggregated data identified as fishing effort, such as a grid basis of 0.1 x 0.1 degree, and linked to logbooks for associated catches.

Data should be processed into grid format within member state to a predetermined standard methodology and submitted in a grid format for aggregation at an international level.

This aggregated data could subsequently be presented in map format.

ICES currently have a study group, SGVMS, looking at VMS issues. EWG believes that some guidance could be sought from them regarding methodology and processing this type of data and that in the future, a combined approach to accessing; collating and analysing these data would be beneficial and make better use of available scientific resources.

5.9.6 ToR 4 Recent effort trends in pelagic fisheries, with emphasis on ICES areas XI, X and CECAF areas

STECF EWG 12-12 has not addressed this ToR due to time constraints. Respective data on effort trends in pelagic fisheries are available on the website: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12

5.9.7 ToR 5 Comments on unexpected effects in Deep Sea and Western Waters fisheries data

STECF EWG 12-12 has no specific comments.

5.10 Bay of Biscay effort regime evaluation in the context of Council Regulation (EC) No 388/2006)

5.10.1 ToR 1.a Fishing effort in kWdays, GTdays and number of vessels by Member State and fisheries

Catch and effort data have been provided by all Member States except Spain. Spanish data provided the previous years are now under revision, effort and catch time series need to be reconsidered before further complete analysis of the activity in this area.

All analyses were made this year without Spanish data.

As data problems were discovered with the French effort information for 2002, STECF-EWG-12-12 decided only to provide effort trends graphically starting from 2003 onwards.

Apart from the Belgium beam trawl fleet, only operational in quarter 3, almost all effort from all gears is French (Table 5.10.1.1).

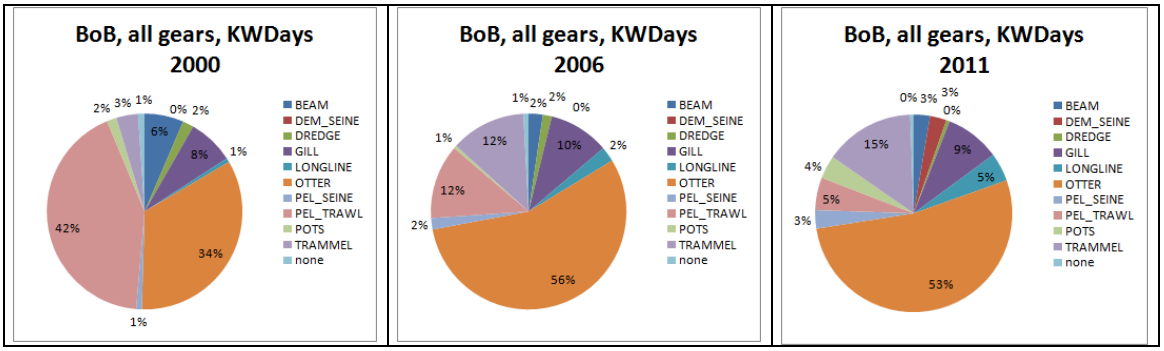


Figure 5.10.1.1: BoB, Trend in the distribution per gear of the nominal effort (KWDays).

The French otter trawl fleet being by far the dominating fleet with percentages around 50% of the effort deployed in the last 8 years (Table 5.10.1.1 and Figures 5.10.1.1 and 5.10.1.2). The other fleets involved are the French trammel nets with increasing trends from about 3% in 2000 up to 15% in the last three years. The predominantly French Pelagic trawl effort went down from about 40% in the beginning of the series to around 5% in the last few years. The Belgian beam trawl fleet accounts only for about 4% of the effort.

Information on the nominal effort of the specific condition SBCIIIART5 is given in Table 5.10.1.3. As mentioned above, data broken down following this specific condition were only provided for 2010 and 2011 for French vessels and since 2006 for Belgian vessels, introducing a shift for the main gear type from the "none" category to the SPECON "SBCIIIART5".

The otter trawl fleet increased since 2003 with a maximum effort level in 2007 that was nearly doubled compared to 2003. Since 2007 the effort deployed stayed at that level. The second important fleet in 2003 (pelagic trawl) decreased since 2006 from around 20% to about 5% following a large decommissioning due to the anchovy crisis.

Trammel nets effort in 2005 doubled compared to earlier years and has fluctuated around that level.

Gillnets increased from 2003 to 2006 and decreased since then.

Demersal seine is a new gear which appears the last two years.

As a quality check, STECF routinely compares the data currently submitted with the data submitted during the previous year, as is displayed in Table 5.10.1.2. Compared to the data submitted in 2010, no differences appear between the two data sets except some small differences which appear for Ireland pelagic trawl for four years.

Table 5.10.1.1 – Bay of Biscay - Trend in nominal effort (kW*days at sea) by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2000-2010. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in Section 9 of the report.

REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BoB	BEAM	none	BEL	913 195	820 583	771 813	618 667	656 093	836 309						
BoB		none	ENG									880			
BoB		none	FRA				15 860	26 032	35 522	4 104	438				1 258
BoB		none	NLD		934 808										
BoB	**Total**	**none**		**913 195**	**1 755 391**	**771 813**	**634 527**	**682 125**	**871 831**	**4 104**	**438**	**880**			**1 258**
BoB	BEAM	SBcIIIart5	BEL							942 990	980 041	776 015	924 272	902 937	735 220
BoB		SBcIIIart5	FRA											588	
BoB	**Total**	**SBcIIIart5**								**942 990**	**980 041**	**776 015**	**924 272**	**903 525**	**735 220**
BoB	DEM_SEINE	none	FRA											383 146	749 480
BoB		none	NLD										12 776	8 936	
BoB	**Total**	**none**											**12 776**	**392 082**	**749 480**
BoB	DEM_SEINE	SBCIIIART5	FRA												215
BoB	**Total**	**SBcIIIart5**													**215**
BoB	DREDGE	none	ENG		4 183										
BoB		none	FRA	260 467	331 896	1 352 166	397 865	421 943	472 463	598 415	504 995	411 002	399 497	119 337	140 365
BoB		none	IRL				14 754								
BoB		none	SCO		25 124										
BoB	**Total**	**none**		**260 467**	**361 203**	**1 352 166**	**412 619**	**421 943**	**472 463**	**598 415**	**504 995**	**411 002**	**399 497**	**119 337**	**140 365**
BoB	DREDGE	SBcIIIart5	FRA											26 275	15 838
BoB	**Total**	**SBcIIIart5**												**26 275**	**15 838**
BoB	GILL	none	ENG			2 730		48 409	35 499	161 852	54 377	18 347	42 007	60 023	63 140
BoB		none	FRA	1 072 873	1 440 398	5 838 608	1 607 633	1 815 567	3 345 574	3 826 232	2 994 200	2 834 696	2 809 728	2 085 039	1 663 436
BoB		none	SCO				7 163	62 035	78 826	33 150	54 702	96 598	29 681	54 375	22 686
BoB	**Total**	**none**		**1 072 873**	**1 440 398**	**5 841 338**	**1 614 796**	**1 926 011**	**3 459 899**	**4 021 234**	**3 103 279**	**2 949 641**	**2 881 416**	**2 199 437**	**1 749 262**
BoB	GILL	SBcIIIart5	FRA											775 388	721 197
BoB	**Total**	**SBcIIIart5**												**775 388**	**721 197**
BoB	LONGLINE	none	ENG	6 716	17 364	57 670	84 319	110 156	71 646	66 968	54 601	20 237			
BoB		none	FRA	88 254	176 129	891 975	235 133	300 458	601 160	916 800	858 475	740 526	740 526	1 064 238	1 125 557
BoB		none	IRL						842	2 105	1 263				
BoB		none	SCO		3 001					6 797	1 378	22 160		9 337	58 942
BoB	**Total**	**none**		**94 970**	**196 494**	**949 645**	**319 452**	**410 614**	**673 648**	**992 670**	**915 717**	**782 923**	**740 526**	**1 073 575**	**1 184 499**
BoB	LONGLINE	SBcIIIart5	FRA											110 673	100 302
BoB	**Total**	**SBcIIIart5**												**110 673**	**100 302**
BoB	OTTER	none	DNK	21 694							11 850		58 516		
BoB		none	ENG	13 041	94	2 855	67 484	129 094	78 252	104 436			9 544	3 240	22 834
BoB		none	FRA	4 762 749	7 970 949	38 306 784	11 003 670	13 058 268	18 462 096	22 354 632	24 659 530	20 854 560	20 727 711	7 036 902	7 272 950
BoB		none	IRL		242	11 050		985		4 854					
BoB		none	SCO			4 634									
BoB	**Total**	**none**		**4 797 484**	**7 971 285**	**38 325 323**	**11 071 154**	**13 188 347**	**18 540 348**	**22 463 922**	**24 671 380**	**20 854 560**	**20 795 771**	**7 040 142**	**7 295 784**
BoB	OTTER	SBcIIIart5	FRA											7 321 109	7 302 739
BoB	**Total**	**SBcIIIart5**												**7 321 109**	**7 302 739**
BoB	PEL_SEINE	none	FRA	131 568	449 004	2 026 613	466 646	540 507	568 973	756 785	745 857	770 304	769 989	808 947	829 863
BoB	**Total**	**none**		**131 568**	**449 004**	**2 026 613**	**466 646**	**540 507**	**568 973**	**756 785**	**745 857**	**770 304**	**769 989**	**808 947**	**829 863**
BoB	PEL_SEINE	SBcIIIart5	FRA											828	
BoB	**Total**	**SBcIIIart5**												**828**	
BoB	PEL_TRAWL	none	DEU	246 685	323 841	191 411	30 222	122 593	263 370	181 553		85 325	20 800	41 237	11 025
BoB		none	DNK	86 110	26 710					38 027	174 671	141 787	179 083	29 240	7 123
BoB		none	ENG	89 855	68 867	275 666	166 043	207 062	127 741	92 445	36 288	155 677	217 846	44 490	24 501
BoB		none	FRA	3 057 444	2 472 517	14 403 101	3 035 742	1 135 975	3 148 397	4 076 421	3 124 058	888 396	828 481	1 565 259	1 228 870
BoB		none	IRL	320 050	100 508	142 989	93 214	158 436	125 890	99 746	67 199	20 000	4 028	15 000	
BoB		none	NLD	2 173 932	3 405 198	1 434 000	655 575	114 007	512 294	460 863	94 666	378 758	166 742	99 986	19 800
BoB		none	SCO	14 662			3 972						19 496		
BoB	**Total**	**none**		**5 988 738**	**6 397 641**	**16 447 167**	**3 984 768**	**1 738 073**	**4 177 692**	**4 949 055**	**3 496 882**	**1 669 943**	**1 436 476**	**1 795 212**	**1 291 319**
BoB	PEL_TRAWL	SBcIIIart5	FRA											147 222	184 067
BoB	**Total**	**SBcIIIart5**												**147 222**	**184 067**
BoB	POTS	none	DEU				14 112	21 168		13 631	11 500	7 056			
BoB		none	ENG					10 185							
BoB		none	FRA	229 712	161 728	618 764	229 673	347 756	176 851	187 550	164 883	24 911	24 911	647 487	579 451
BoB	**Total**	**none**		**229 712**	**161 728**	**618 764**	**243 785**	**379 109**	**176 851**	**201 181**	**176 383**	**31 967**	**24 911**	**941 931**	**947 585**
BoB	POTS	SBcIIIart5	FRA											45 936	96 457
BoB	**Total**	**SBcIIIart5**												**45 936**	**96 457**
BoB	TRAMMEL	none	ENG									547			
BoB		none	FRA	506 847	741 206	3 600 220	1 277 751	1 589 582	3 558 877	5 004 728	5 255 173	4 869 305	4 867 175	480 469	395 241
BoB	**Total**	**none**		**506 847**	**741 206**	**3 600 220**	**1 277 751**	**1 589 582**	**3 558 877**	**5 004 728**	**5 255 173**	**4 869 852**	**4 867 175**	**480 469**	**395 241**
BoB	TRAMMEL	SBcIIIart5	FRA											3 781 530	3 673 848
BoB	**Total**	**SBcIIIart5**												**3 781 530**	**3 673 848**
BoB	none	none	FRA	152 647	214 786	1 027 994	183 430	179 275	191 342	348 466	278 666	449 815	449 815		147 204
BoB		none	IRL						25 000						
BoB	**Total**	**none**		**152 647**	**214 786**	**1 027 994**	**183 430**	**179 275**	**216 342**	**348 466**	**278 666**	**449 815**	**449 815**		**147 204**
BoB	none	SBCIIIART5	FRA												12 939
BoB	**Total**	**SBcIIIart5**													**12 939**
BoB	**Grand Total**			**14 148 501**	**19 689 136**	**70 961 043**	**20 208 928**	**21 055 586**	**32 716 924**	**40 283 550**	**40 128 811**	**33 566 902**	**33 302 624**	**27 963 618**	**27 574 682**

Table 5.10.1.2 – Bay of Biscay – Percentage difference in effort (kW*days at sea) by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2003-2011 between the data provided in 2011 and 2012. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in section 9 of the report.

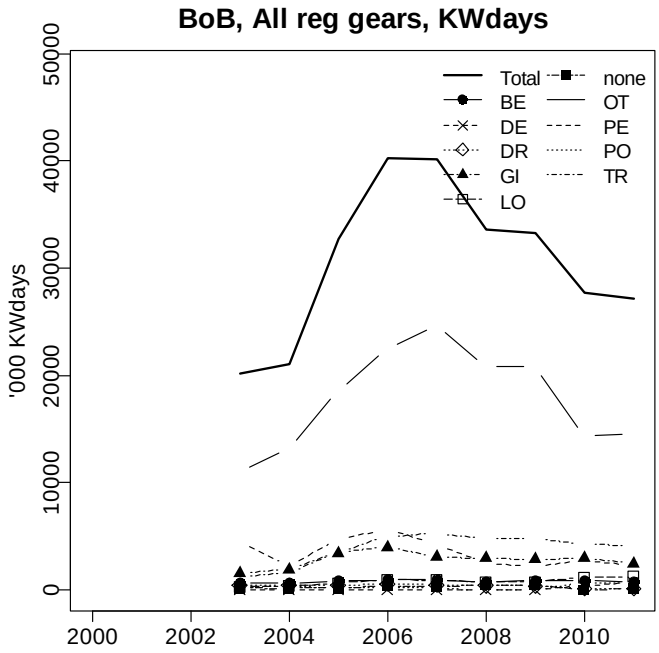
REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BoB	BEAM	none	BEL	0%	0%	0%	0%	0%	0%					
BoB	BEAM	none	FRA				0%	0%	0%	0%	0%			
BoB	BEAM	none	GBR									0%		
BoB	BEAM	none	NLD		0%									
BoB	BEAM	SBcIIIart5	BEL											0%
BoB	BEAM	SBcIIIart5	FRA											0%
BoB	DEM_SEINE	none	FRA											0%
BoB	DEM_SEINE	none	NLD										0%	0%
BoB	DREDGE	none	FRA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BoB	DREDGE	none	GBR		0%									
BoB	DREDGE	none	IRL				0%							
BoB	DREDGE	none	SCO		0%									
BoB	DREDGE	SBcIIIart5	FRA											0%
BoB	GILL	none	FRA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BoB	GILL	none	GBR			0%		0%	0%	0%	0%	0%	0%	0%
BoB	GILL	none	SCO				0%	0%	0%	0%	0%	0%	0%	0%
BoB	GILL	SBcIIIart5	FRA											0%
BoB	LONGLINE	none	FRA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BoB	LONGLINE	none	GBR	0%	0%	0%	0%	0%	0%	0%	0%	0%		
BoB	LONGLINE	none	IRL						0%	0%	0%			
BoB	LONGLINE	none	SCO		0%					0%	0%	0%		0%
BoB	LONGLINE	SBcIIIart5	FRA											0%
BoB	OTTER	none	DNK	0%							0%		0%	
BoB	OTTER	none	FRA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BoB	OTTER	none	GBR	0%	0%	0%	0%	0%	0%	0%			0%	0%
BoB	OTTER	none	IRL		0%	0%		0%		0%				
BoB	OTTER	none	SCO			0%								
BoB	OTTER	SBcIIIart5	FRA											0%
BoB	PEL_SEINE	none	FRA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BoB	PEL_SEINE	SBcIIIart5	FRA											0%
BoB	PEL_TRAWL	none	DEU	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%
BoB	PEL_TRAWL	none	DNK	0%	0%					0%	0%	0%	0%	0%
BoB	PEL_TRAWL	none	FRA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BoB	PEL_TRAWL	none	GBR	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BoB	PEL_TRAWL	none	IRL	0%	0%	0%	**-32%**	**-48%**	**-41%**	0%	0%	0%	0%	**-14%**
BoB	PEL_TRAWL	none	NLD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BoB	PEL_TRAWL	none	SCO	0%			0%						0%	
BoB	PEL_TRAWL	SBcIIIart5	FRA											0%
BoB	POTS	none	DEU				0%	0%		0%	0%	0%		
BoB	POTS	none	FRA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BoB	POTS	none	GBR					0%						
BoB	POTS	SBcIIIart5	FRA											0%
BoB	TRAMMEL	none	FRA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BoB	TRAMMEL	none	GBR									0%		
BoB	TRAMMEL	SBcIIIart5	FRA											0%
BoB	none	none	FRA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
BoB	none	none	IRL						0%					

Table 5.10.1.3 – Bay of Biscay - Trend in nominal effort (kW*days at sea) by derogations stated in article 5 of Coun. Reg. 388/2006, 2000-11. Derogations are sorted by gear and special condition (SPECON). Data qualities are summarised in section 9 of the report.

REG AREA COD	REG GEAR COD	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BoB	BEAM	none	913 195	1 755 391	771 813	634 527	682 125	871 831	4 104	438	880	-	-	1 258
BoB	BEAM	SBcIIIart5							942 990	980 041	776 015	924 272	903 525	735 220
BoB	DEM_SEINE	none										12 776	392 082	749 480
BoB	DEM_SEINE	SBcIIIart5												215
BoB	DREDGE	none	260 467	361 203	1 352 166	412 619	421 943	472 463	598 415	504 995	411 002	399 497	119 337	140 365
BoB	DREDGE	SBcIIIart5											26 275	15 838
BoB	GILL	none	1 072 873	1 440 398	5 841 338	1 614 796	1 926 011	3 459 899	4 021 234	3 103 279	2 949 641	2 881 416	2 199 437	1 749 262
BoB	GILL	SBcIIIart5											775 388	721 197
BoB	LONGLINE	none	94 970	196 494	949 645	319 452	410 614	673 648	992 670	915 717	782 923	740 526	1 073 575	1 184 499
BoB	LONGLINE	SBcIIIart5											110 673	100 302
BoB	OTTER	none	4 797 484	7 971 285	38 325 323	11 071 154	13 188 347	18 540 348	22 463 922	24 671 380	20 854 560	20 795 771	7 040 142	7 295 784
BoB	OTTER	SBcIIIart5											7 321 109	7 302 739
BoB	PEL_SEINE	none	131 568	449 004	2 026 613	466 646	540 507	568 973	756 785	745 857	770 304	769 989	808 947	829 863
BoB	PEL_SEINE	SBcIIIart5											828	
BoB	PEL_TRAWL	none	5 988 738	6 397 641	16 447 167	3 984 768	1 738 073	4 177 692	4 949 055	3 496 882	1 669 943	1 436 476	1 795 212	1 291 319
BoB	PEL_TRAWL	SBcIIIart5											147 222	184 067
BoB	POTS	none	229 712	161 728	618 764	243 785	379 109	176 851	201 181	176 383	31 967	24 911	941 931	947 585
BoB	POTS	SBcIIIart5											45 936	96 457
BoB	TRAMMEL	none	506 847	741 206	3 600 220	1 277 751	1 589 582	3 558 877	5 004 728	5 255 173	4 869 852	4 867 175	480 469	395 241
BoB	TRAMMEL	SBcIIIart5											3 781 530	3 673 848
BoB	none	none	152 647	214 786	1 027 994	183 430	179 275	216 342	348 466	278 666	449 815	449 815		147 204
BoB	none	SBcIIIart5												12 939
Sum			**14 148 501**	**19 689 136**	**70 961 043**	**20 208 928**	**21 055 586**	**32 716 924**	**40 283 550**	**40 128 811**	**33 566 902**	**33 302 624**	**27 963 618**	**27 574 682**

Table 5.10.1.4 – Bay of Biscay - Trend in nominal effort (kW*days at sea) by derogations stated in article 5 of Coun. Reg. 388/2006, 2003-11. Derogations are sorted by gear. Data qualities are summarised in section 9 of the report.

Length Class	REG AREA COD	REG GEAR COD	2003	2004	2005	2006	2007	2008	2009	2010	2011
o. 10m.	**BoB**	**BEAM**	634 527	682 125	871 831	947 094	980 479	776 895	924 272	903 525	736 478
	BoB	**DEM_SEINE**	-	-	-	-	-	-	12 776	392 082	749 695
	BoB	**DREDGE**	412 619	421 943	472 463	598 415	504 995	411 002	399 497	145 612	156 203
	BoB	**GILL**	1 614 796	1 926 011	3 459 899	4 021 234	3 103 279	2 949 641	2 881 416	2 974 825	2 470 459
	BoB	**LONGLINE**	319 452	410 614	673 648	992 670	915 717	782 923	740 526	1 184 248	1 284 801
	BoB	**OTTER**	11 071 154	13 188 347	18 540 348	22 463 922	24 671 380	20 854 560	20 795 771	14 361 251	14 598 523
	BoB	**PEL_SEINE**	466 646	540 507	568 973	756 785	745 857	770 304	769 989	809 775	829 863
	BoB	**PEL_TRAWL**	3 984 768	1 738 073	4 177 692	4 949 055	3 496 882	1 669 943	1 436 476	1 942 434	1 475 386
	BoB	**POTS**	243 785	379 109	176 851	201 181	176 383	31 967	24 911	987 867	1 044 042
	BoB	**TRAMMEL**	1 277 751	1 589 582	3 558 877	5 004 728	5 255 173	4 869 852	4 867 175	4 261 999	4 069 089
	BoB	**none**	183 430	179 275	216 342	348 466	278 666	449 815	449 815	-	160 143
	Sum o. 10m.		**20 208 928**	**21 055 586**	**32 716 924**	**40 283 550**	**40 128 811**	**33 566 902**	**33 302 624**	**27 963 618**	**27 574 682**



Figures 5.10.1.2 – Bay of Biscay -Trend in nominal effort (kW*days at sea) by derogations stated in article 5 of Coun. Reg. 388/2006, 2003-2011. Derogations are sorted by gear and summed by special condition (SPECON SBcIIIart5 and none). Data qualities are summarised in section 9 of the report.

Information on GT*days at sea and the number of vessels active in the Bay of Biscay are also presented below in this report.

Table 5.10.1.5 – Bay of Biscay - Trend in GT*days at sea by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2000-2011. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in Section 9 of the report.

REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BoB	BEAM	none	BEL	369 502	336 856	316 675	252 346	260 227	326 238						
BoB		none	ENG									548			
BoB		none	FRA				1 740	4 067	4 350	1 044	24				171
BoB		none	NLD		248 953										
BoB	**Total**	**none**		**369 502**	**585 809**	**316 675**	**254 086**	**264 294**	**330 588**	**1 044**	**24**	**548**			**171**
BoB	BEAM	SBcIIIart5	BEL							346 648	345 158	260 196	303 554	295 502	246 961
BoB		SBcIIIart5	FRA											96	
BoB	**Total**	**SBcIIIart5**								**346 648**	**345 158**	**260 196**	**303 554**	**295 598**	**246 961**
BoB	DEM_SEINE	none	FRA											142 954	236 261
BoB		none	NLD										4 496	3 116	
BoB	**Total**	**none**											**4 496**	**146 070**	**236 261**
BoB	DEM_SEINE	SBCIIIART5	FRA												12
BoB	**Total**	**SBcIIIart5**													**12**
BoB	DREDGE	none	ENG		1 338										
BoB		none	FRA	32 808	45 907	219 148	56 918	48 856	68 560	71 463	56 560	43 663	42 476	12 421	14 527
BoB		none	IRL				4 156								
BoB		none	SCO												
BoB	**Total**	**none**		**32 808**	**47 245**	**219 148**	**61 074**	**48 856**	**68 560**	**71 463**	**56 560**	**43 663**	**42 476**	**12 421**	**14 527**
BoB	DREDGE	SBcIIIart5	FRA											2 457	1 761
BoB	**Total**	**SBcIIIart5**												**2 457**	**1 761**
BoB	GILL	none	ENG			1 098		22 584	16 562	80 491	27 430	7 817	22 181	37 567	39 130
BoB		none	FRA	244 432	296 268	1 396 820	348 718	373 764	658 577	740 970	552 908	584 996	580 821	749 706	557 887
BoB		none	SCO				3 302	32 419	43 990	22 249	36 714	55 743	19 920	28 297	12 236
BoB	**Total**	**none**		**244 432**	**296 268**	**1 397 918**	**352 020**	**428 767**	**719 129**	**843 710**	**617 052**	**648 556**	**622 922**	**815 570**	**609 253**
BoB	GILL	SBcIIIart5	FRA											180 065	154 755
BoB	**Total**	**SBcIIIart5**												**180 065**	**154 755**
BoB	LONGLINE	none	ENG	4 300	8 852	25 199	35 327	42 711	28 558	26 067	20 917	7 693			
BoB		none	FRA	22 548	36 361	233 868	57 242	55 559	84 331	124 674	122 865	106 382	106 382	174 731	213 036
BoB		none	IRL						356	890	534				
BoB		none	SCO							3 198	636	8 479		4 171	26 339
BoB	**Total**	**none**		**26 848**	**45 213**	**259 067**	**92 569**	**98 270**	**113 245**	**154 829**	**144 952**	**122 554**	**106 382**	**178 902**	**239 375**
BoB	LONGLINE	SBcIIIart5	FRA											12 993	12 514
BoB	**Total**	**SBcIIIart5**												**12 993**	**12 514**
BoB	OTTER	none	DNK	10 986							6 160		12 993	12 514	12 993
BoB		none	ENG	7 659	16	1 899	24 304	46 717	28 110	51 420			25 986	25 028	25 986
BoB		none	FRA	1 214 340	1 556 966	7 394 800	2 005 500	2 446 023	3 481 339	4 269 618	4 751 353	4 091 708	4 069 480	1 450 463	1 553 205
BoB		none	IRL		81	2 520		396		1 927					
BoB		none	SCO												
BoB	**Total**	**none**		**1 232 985**	**1 557 063**	**7 399 219**	**2 029 804**	**2 493 136**	**3 509 449**	**4 322 965**	**4 757 513**	**4 091 708**	**4 108 459**	**1 488 005**	**1 592 184**
BoB	OTTER	SBcIIIart5	FRA											1 427 339	1 367 470
BoB	**Total**	**SBcIIIart5**												**1 427 339**	**1 367 470**
BoB	PEL_SEINE	none	FRA	29 874	94 699	421 156	96 080	123 446	114 224	189 445	154 763	162 232	162 232	135 603	142 309
BoB	**Total**	**none**		**29 874**	**94 699**	**421 156**	**96 080**	**123 446**	**114 224**	**189 445**	**154 763**	**162 232**	**162 232**	**135 603**	**142 309**
BoB	PEL_SEINE	SBcIIIart5	FRA											96	
BoB	**Total**	**SBcIIIart5**												**96**	
BoB	PEL_TRAWL	none	DEU			267 960	39 360	166 460	327 390	215 600		102 668	25 448	46 031	12 112
BoB		none	DNK	46 096	14 931					17 148	83 555	63 210	79 838	13 036	3 175
BoB		none	ENG	64 166	39 091	153 142	86 974	117 074	77 997	61 750	17 867	85 125	132 938	23 130	14 193
BoB		none	FRA	743 688	658 886	4 195 824	693 938	255 981	741 811	1 006 582	692 958	273 256	262 051	338 295	262 826
BoB		none	IRL	280 146	67 391	25 199	43 642	95 310	73 660	41 317	28 609	8 752	4 372	6 564	-
BoB		none	NLD	2 022 856	2 948 484	1 186 141	546 023	89 502	423 345	404 107	74 323	311 385	138 260	75 620	16 370
BoB		none	SCO				999						5 660		
BoB	**Total**	**none**		**3 156 952**	**3 728 783**	**5 828 266**	**1 410 936**	**724 327**	**1 644 203**	**1 746 504**	**897 312**	**844 396**	**648 567**	**502 676**	**308 676**
BoB	PEL_TRAWL	SBcIIIart5	FRA											29 702	27 334
BoB	**Total**	**SBcIIIart5**												**29 702**	**27 334**
BoB	POTS	none	DEU				6 360	9 540		6 150	5 190	3 184			
BoB		none	ENG					7 423							
BoB		none	FRA	70 751	47 706	204 480	59 632	73 801	49 166	49 576	38 279	5 566	5 566	135 536	113 719
BoB	**Total**	**none**		**70 751**	**47 706**	**204 480**	**65 992**	**90 764**	**49 166**	**55 726**	**43 469**	**8 750**	**5 566**	**135 536**	**113 719**
BoB	POTS	SBcIIIart5	FRA											5 964	10 322
BoB	**Total**	**SBcIIIart5**												**5 964**	**10 322**
BoB	TRAMMEL	none	ENG									108			
BoB		none	FRA	123 442	175 857	916 076	278 019	332 093	653 595	839 422	907 133	809 048	808 584	63 509	55 018
BoB	**Total**	**none**		**123 442**	**175 857**	**916 076**	**278 019**	**332 093**	**653 595**	**839 422**	**907 133**	**809 156**	**808 584**	**63 509**	**55 018**
BoB	TRAMMEL	SBcIIIart5	FRA											756 069	741 980
BoB	**Total**	**SBcIIIart5**												**756 069**	**741 980**
BoB	none	none	FRA	71 399	84 549	329 060	73 993	70 753	86 080	47 505	37 463	52 059	52 059		17 118
BoB		none	IRL						15 840						
BoB	**Total**	**none**		**71 399**	**84 549**	**329 060**	**73 993**	**70 753**	**101 920**	**47 505**	**37 463**	**52 059**	**52 059**		**17 118**
BoB	none	SBCIIIART5	FRA												1 685
BoB	**Total**	**SBcIIIart5**													**1 685**
BoB	**Grand Total**			5 358 993	6 663 192	17 291 065	4 714 573	4 674 706	7 304 079	8 619 261	7 961 399	7 043 818	6 865 297	6 188 575	5 893 405

Table 5.10.1.6 – Bay of Biscay - Trend in Number of vessels concerned by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2000-2011. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in Section 9 of the report.

REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BoB	BEAM	none	BEL	14	19	20	17	19	23						
BoB		none	ENG									1			
BoB		none	FRA				1	4	1	1	1				2
BoB		none	NLD		8										
BoB	**Total**	**none**		**14**	**27**	**20**	**18**	**23**	**24**	**1**	**1**	**1**			**2**
BoB	BEAM	SBcIIIart5	BEL							18	20	14	18	13	15
BoB		SBcIIIart5	FRA											1	
BoB	**Total**	**SBcIIIart5**								**18**	**20**	**14**	**18**	**14**	**15**
BoB	DEM_SEINE	none	FRA											6	5
BoB		none	NLD										1	1	
BoB	**Total**	**none**											**1**	**7**	**5**
BoB	DEM_SEINE	SBcIIIART5	FRA												1
BoB	**Total**	**SBcIIIart5**													**1**
BoB	DREDGE	none	ENG		1										
BoB		none	FRA	166	143	169	193	117	136	80	84	102	92	61	61
BoB		none	IRL				4								
BoB		none	SCO		3										
BoB	**Total**	**none**		**166**	**147**	**169**	**197**	**117**	**136**	**80**	**84**	**102**	**92**	**61**	**61**
BoB	DREDGE	SBcIIIart5	FRA											9	10
BoB	**Total**	**SBcIIIart5**												**9**	**10**
BoB	GILL	none	ENG			1		1	1	3	3	3	3	3	1
BoB		none	FRA	67	53	79	50	63	70	101	82	85	79	36	36
BoB		none	SCO				1	2	1	1	1	1	1	1	1
BoB	**Total**	**none**		**67**	**53**	**80**	**51**	**66**	**72**	**105**	**86**	**89**	**83**	**40**	**38**
BoB	GILL	SBcIIIart5	FRA											22	19
BoB	**Total**	**SBcIIIart5**												**22**	**19**
BoB	LONGLINE	none	ENG	3	3	3	2	2	3	2	2	1			
BoB		none	FRA	16	17	23	20	28	34	55	50	49	33	41	38
BoB		none	IRL						1	1	1				
BoB		none	SCO		1					1	1	2		1	2
BoB	**Total**	**none**		**19**	**21**	**26**	**22**	**30**	**38**	**59**	**54**	**52**	**33**	**42**	**40**
BoB	LONGLINE	SBcIIIart5	FRA											9	9
BoB	**Total**	**SBcIIIart5**												**9**	**9**
BoB	OTTER	none	DNK	3							1		2		
BoB		none	ENG	2	1	1	2	2	2	2			2	1	2
BoB		none	FRA	202	238	210	230	276	326	470	457	334	279	128	117
BoB		none	IRL		1	2		1		1					
BoB		none	SCO			1									
BoB	**Total**	**none**		**207**	**240**	**214**	**232**	**279**	**328**	**473**	**458**	**334**	**283**	**129**	**119**
BoB	OTTER	SBcIIIart5	FRA											85	77
BoB	**Total**	**SBcIIIart5**												**85**	**77**
BoB	PEL_SEINE	none	FRA	10	14	20	17	26	18	18	18	14	14	13	21
BoB	**Total**	**none**		**10**	**14**	**20**	**17**	**26**	**18**	**18**	**18**	**14**	**14**	**13**	**21**
BoB	PEL_SEINE	SBcIIIart5	FRA											1	
BoB	**Total**	**SBcIIIart5**												**1**	
BoB	PEL_TRAWL	none	DEU	4	2	3	3	3	4	4		2	1	2	2
BoB		none	DNK	6	4					1	9	1	1	1	1
BoB		none	ENG	2	2	4	3	4	3	2	2	3	4	3	2
BoB		none	FRA	244	128	91	100	103	159	182	90	34	50	35	38
BoB		none	IRL	2	3	10	3	2	3	2	2	1	1	1	
BoB		none	NLD	12	13	11	10	4	6	8	2	3	2	2	1
BoB		none	SCO	2			1						1		
BoB	**Total**	**none**		**272**	**152**	**119**	**120**	**116**	**175**	**199**	**105**	**44**	**60**	**44**	**44**
BoB	PEL_TRAWL	SBcIIIart5	FRA											12	10
BoB	**Total**	**SBcIIIart5**												**12**	**10**
BoB	POTS	none	DEU				1	1		2	2	1			
BoB		none	ENG					1							
BoB		none	FRA	13	16	15	19	16	12	22	12	5	5	40	39
BoB	**Total**	**none**		**13**	**16**	**15**	**20**	**18**	**12**	**24**	**14**	**6**	**5**	**40**	**39**
BoB	POTS	SBcIIIart5	FRA											5	10
BoB	**Total**	**SBcIIIart5**												**5**	**10**
BoB	TRAMMEL	none	ENG									1			
BoB		none	FRA	39	42	47	50	68	68	92	117	124	134	23	21
BoB	**Total**	**none**		**39**	**42**	**47**	**50**	**68**	**68**	**92**	**117**	**125**	**134**	**23**	**21**
BoB	TRAMMEL	SBcIIIart5	FRA											72	72
BoB	**Total**	**SBcIIIart5**												**72**	**72**
BoB	none	none	FRA	93	81	98	79	76	95	81	49	62	62		38
BoB		none	IRL						1						
BoB	**Total**	**none**		**93**	**81**	**98**	**79**	**76**	**96**	**81**	**49**	**62**	**62**		**38**
BoB	none	SBCIIIART5	FRA												6
BoB	**Total**	**SBcIIIart5**													**6**

5.10.2 ToR 1.b Fishing capacity in GT of relevant vessels by Member State and fisheries

Fishing capacity in GT is only available for Belgian vessels since 2003 consequently trend in fishing capacity GT is only represented for beam trawl mainly composed of Belgian vessels.

Table 5.10.2.1 – Bay of Biscay - Trend in Fishing capacity (GT) concerned by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2000-2011. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in Section 9 of the report.

REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BoB	BEAM	none	BEL				6 295	6 945	8 226						
BoB		none	ENG												
BoB		none	FRA												
BoB		none	NLD												
BoB	**Total**	**none**					**6 295**	**6 945**	**8 226**						
BoB	BEAM	SBcIIIart5	BEL							6 611	7 237	5 118	6 957	4 946	5 661
BoB		SBcIIIart5	FRA												
BoB	**Total**	**SBcIIIart5**								**6 611**	**7 237**	**5 118**	**6 957**	**4 946**	**5 661**

5.10.3 ToR 1.c Catches (landings and discards) of sole in weight and numbers at age by fisheries

The following section provides quantities of sole landings by fisheries. Discard estimates are scarce.

Table 5.10.3.1 – Bay of Biscay - Trend in total landings (t) for common sole and associated species for vessels concerned by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2003-2011. Derogations are sorted by gear. Data qualities are summarised in Section 9 of the report.

Length Class	REG AREA COD	REG GEAR COD	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
o. 10m.	BoB	BEAM	ANF	117	9	180	139	142	189	195	179	195
	BoB	DEM_SEINE	ANF								0	2
	BoB	DREDGE	ANF	1	1	1	0	0	1	1		0
	BoB	GILL	ANF	253	404	481	477	572	541	554	156	259
	BoB	LONGLINE	ANF	0	1	1	2	0	0	0	0	1
	BoB	none	ANF		0	0	3	0	0	0		
	BoB	OTTER	ANF	3268	3605	3593	3585	3877	3406	3393	616	1947
	BoB	PEL_TRAWL	ANF	42	38	0	1	3	5	5	7	10
	BoB	POTS	ANF	0		0	0	0			0	0
	BoB	TRAMMEL	ANF	226	352	355	437	380	476	476	22	120
	Sum_o10m			**3907**	**4410**	**4611**	**4644**	**4974**	**4618**	**4624**	**980**	**2534**
o. 10m.	BoB	BEAM	HKE	14	12	15	10	2	3	6	5	5
	BoB	DEM_SEINE	HKE							0	36	41
	BoB	DREDGE	HKE	3	0	2	3	1	1	1	1	0
	BoB	GILL	HKE	1632	1605	2891	1377	1026	2513	2485	6099	6657
	BoB	LONGLINE	HKE	34	22	34	57	78	54	54	448	820
	BoB	none	HKE		1	1	1	4	2	2		1
	BoB	OTTER	HKE	1408	1234	1716	1269	1906	2486	2472	1637	1466
	BoB	PEL_SEINE	HKE	0	0	0	0	0	0	0	1	2
	BoB	PEL_TRAWL	HKE	293	48	217	162	271	52	51	148	478
	BoB	POTS	HKE				0	0			6	9
	BoB	TRAMMEL	HKE	118	124	105	85	195	158	157	177	181
	Sum_o10m			**3502**	**3046**	**4981**	**2964**	**3483**	**5269**	**5228**	**8558**	**9660**
o. 10m.	BoB	BEAM	NEP	4	4	8	6	3	1	1	3	3
	BoB	DREDGE	NEP	0	0	2	0	0	1	1	2	
	BoB	GILL	NEP	1	2	0	2	1	3	3	0	1
	BoB	LONGLINE	NEP	0	0				0	0	1	16
	BoB	none	NEP				0	0	0	0		
	BoB	OTTER	NEP	2329	2506	3123	2908	2801	2659	2650	2564	2966
	BoB	PEL_TRAWL	NEP	5		0	2	4	34	34	2	19
	BoB	POTS	NEP	1	2	0		0			3	4
	BoB	TRAMMEL	NEP	0	1	1	5	0	0	0	4	1
	Sum_o10m			**2340**	**2515**	**3134**	**2923**	**2809**	**2698**	**2689**	**2579**	**3010**
o. 10m.	BoB	BEAM	SOL	296	320	350	381	398	287	362	451	384
	BoB	DEM_SEINE	SOL								0	1
	BoB	DREDGE	SOL	2	2	3	2	3	2	2	1	1
	BoB	GILL	SOL	245	293	387	270	156	159	158	118	99
	BoB	LONGLINE	SOL	0	10	10	9	0	0	0	3	1
	BoB	none	SOL	0	1	0	5	0	0	0		2
	BoB	OTTER	SOL	716	745	865	890	948	777	773	795	861
	BoB	PEL_SEINE	SOL		0		0				0	0
	BoB	PEL_TRAWL	SOL	2	0	2	1	2	5	5	3	5
	BoB	POTS	SOL	0			0	0			1	2
	BoB	TRAMMEL	SOL	991	1143	1650	1838	1744	2080	2077	1614	2244
	Sum_o10m			**2252**	**2514**	**3267**	**3396**	**3251**	**3310**	**3377**	**2986**	**3600**
o. 10m.	BoB	BEAM	WHG	1	0	3	2	4	1	2	3	1
	BoB	DEM_SEINE	WHG							0	86	144
	BoB	DREDGE	WHG	2	2	1	1	0	0	0	0	0
	BoB	GILL	WHG	62	39	53	64	52	55	55	46	33
	BoB	LONGLINE	WHG	9	64	110	152	302	170	170	156	195
	BoB	none	WHG	0	0		0	3	0	0		3
	BoB	OTTER	WHG	350	418	610	483	576	330	329	435	566
	BoB	PEL_SEINE	WHG				0					0
	BoB	PEL_TRAWL	WHG	238	80	130	87	133	45	44	156	77
	BoB	POTS	WHG					0			1	28
	BoB	TRAMMEL	WHG	34	31	42	74	72	87	87	46	80
	Sum_o10m			**696**	**634**	**949**	**863**	**1142**	**688**	**687**	**929**	**1127**

Table 5.10.3.2 – Bay of Biscay - Trend in total landings (t) and discards (t) for common sole (SOL) for vessels concerned by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2003-2011. Derogations are sorted by gear, special conditions (SPECON) and country. Data qualities are summarised in Section 9 of the report.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2003		2004		2005		2006		2007		2008		2009		2010		2011	
					L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D
SOL	BoB	BEAM	none	BEL	296	-	319	-	349	-												
	BoB		none	ENG											-	-						
	BoB		none	FRA	-	-	1	-	1	-	-	-									1	-
	BoB	**Total**	**none**		296	-	320	-	350	-	-	-	-	-	-	-	-	-	-	-	1	-
	BoB	BEAM	SBcillart5	BEL							380	-	398	-	287	-	362	9	451	29	384	9
	BoB		SBcillart5	FRA															-	-		
	BoB	**Total**	**SBcillart5**		-	-	-	-	-	-	380	-	398	-	287	-	362	9	451	29	384	9
	BoB	DEM_SEINE	none	FRA															-	-	1	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
	BoB	DREDGE	none	FRA	2	-	2	-	3	-	2	-	3	-	2	-	2	-	-	-	-	-
	BoB	**Total**	**none**		2	-	2	-	3	-	2	-	3	-	2	-	2	-	-	-	-	-
	BoB	DREDGE	SBcillart5	FRA															-	-	1	-
	BoB	**Total**	**SBcillart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
	BoB	GILL	none	ENG									-	-	-	-	-	-				
	BoB		none	FRA	245	-	293	-	387	-	270	-	156	-	159	-	158	-	10	4	8	-
	BoB	**Total**	**none**		245	-	293	-	387	-	270	-	156	-	159	-	158	-	10	4	8	-
	BoB	GILL	SBcillart5	FRA															108	4	91	-
	BoB	**Total**	**SBcillart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	4	91	-
	BoB	LONGLINE	none	FRA	-	-	10	-	10	-	9	-	-	-	-	-	-	-	1	-	1	-
	BoB	**Total**	**none**		-	-	10	-	10	-	9	-	-	-	-	-	-	-	1	-	1	-
	BoB	LONGLINE	SBcillart5	FRA															2	-	1	-
	BoB	**Total**	**SBcillart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-
	BoB	OTTER	none	FRA	716	-	745	-	865	-	890	-	948	-	777	-	773	-	150	6 696	185	-
	BoB	**Total**	**none**		716	-	745	-	865	-	890	-	948	-	777	-	773	-	150	6 696	185	-
	BoB	OTTER	SBcillart5	FRA															646	437	676	-
	BoB	**Total**	**SBcillart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	646	437	676	-
	BoB	PEL_SEINE	none	FRA			-	-			-	-							-	-	-	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	PEL_TRAWL	none	FRA	2	-	-	-	2	-	1	-	2	-	5	-	5	-	-	-	2	-
	BoB	**Total**	**none**		2	-	-	-	2	-	1	-	2	-	5	-	5	-	-	-	2	-
	BoB	PEL_TRAWL	SBcillart5	FRA															3	-	3	-
	BoB	**Total**	**SBcillart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	3	-
	BoB	POTS	none	FRA	-	-					-	-	-	-					-	-	2	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
	BoB	POTS	SBcillart5	FRA															-	-	-	-
	BoB	**Total**	**SBcillart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	TRAMMEL	none	FRA	991	-	1 143	-	1 650	-	1 838	-	1 744	-	2 080	-	2 077	-	35	-	24	-
	BoB	**Total**	**none**		991	-	1 143	-	1 650	-	1 838	-	1 744	-	2 080	-	2 077	-	35	-	24	-
	BoB	TRAMMEL	SBcillart5	FRA															1 579	1	2 219	38
	BoB	**Total**	**SBcillart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 579	1	2 219	38
	BoB	none	none	FRA	-	-	1	-	-	-	5	-	-	-	-	-	-	-			-	-
	BoB	**Total**	**none**		-	-	1	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
	BoB	none	SBcillart5	FRA																	2	-
	BoB	**Total**	**SBcillart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
	BoB	**Grand Total**			2 252	-	2 514	-	3 267	-	3 395	-	3 251	-	3 310	-	3 377	9	2 985	7 171	3 601	47

5.10.4 ToR 1.c Catches (landings and discards) of non-sole species in weight and numbers at age by fisheries

The following section provides quantities of sole and other major species' landings by fisheries. Discard estimates are scarce.

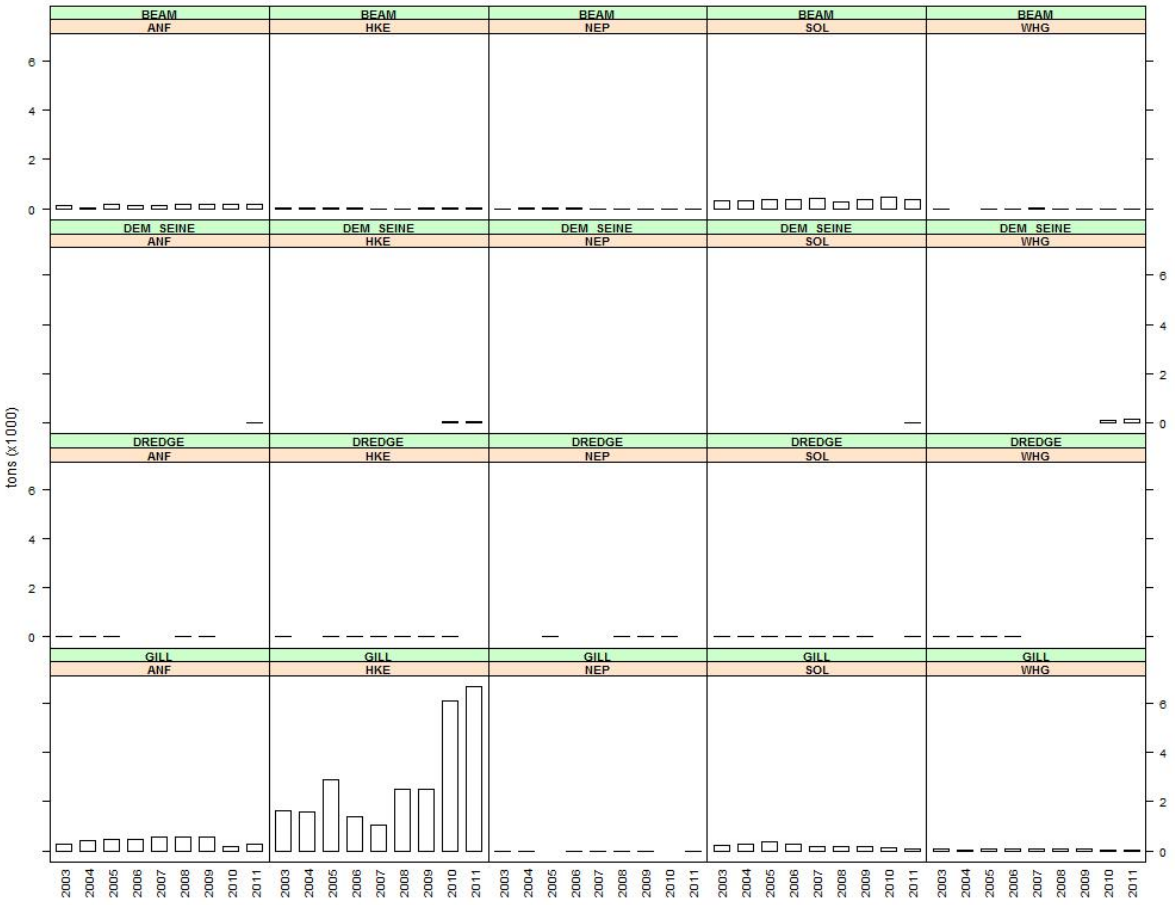


Fig. 5.10.4.1 – Bay of Biscay - Landings (t) by derogation and species, 2003-2011 (from left to right).

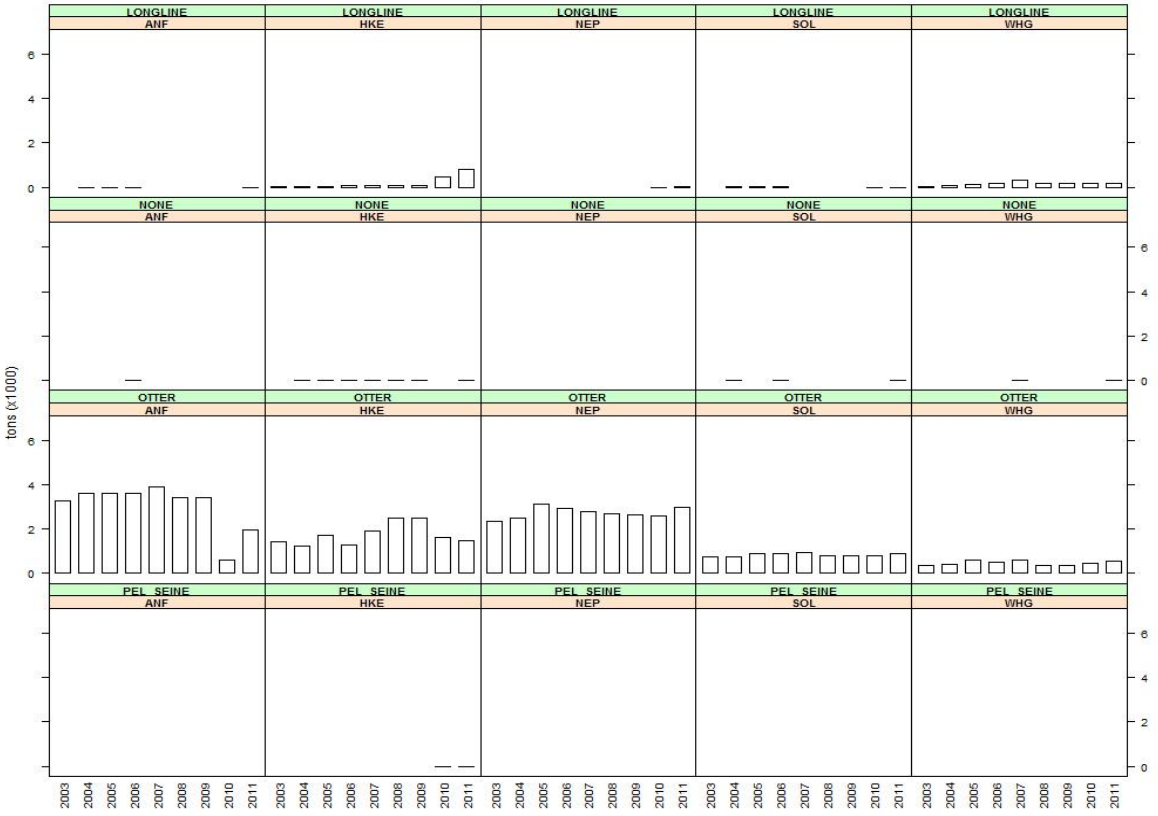


Fig. 5.10.4.1 – Continued - Bay of Biscay - Landings (t) by derogation and species, 2003-2011 (from left to right).

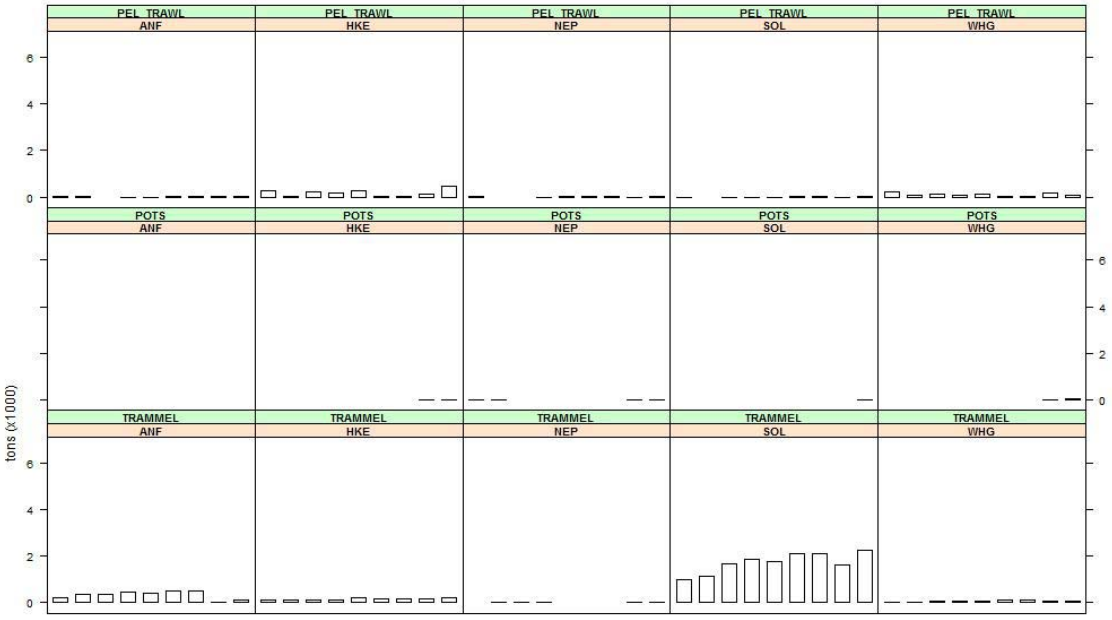


Fig. 5.10.4.1 – Continued - Bay of Biscay - Landings (t) by derogation and species, 2003-2011 (from left to right).

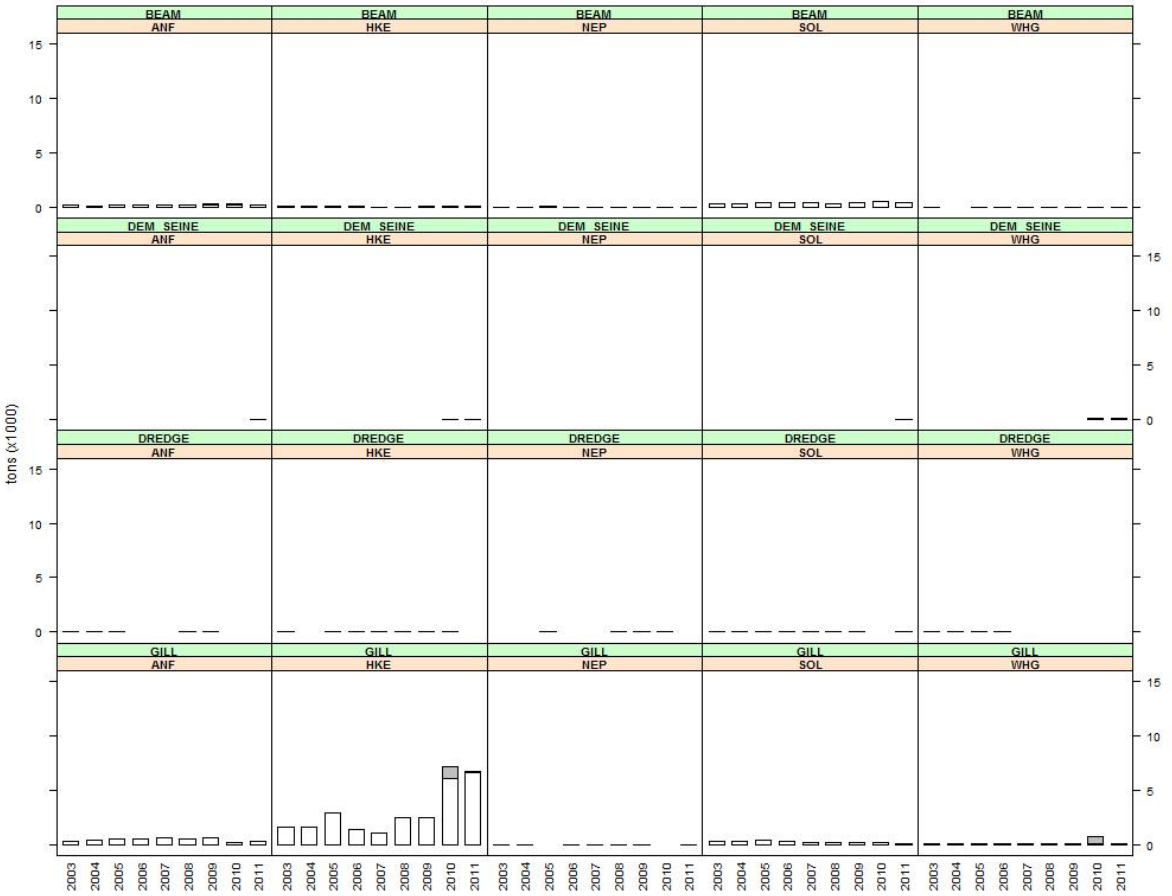


Fig. 5.10.4.1 – Continued - Bay of Biscay - Landings and discards (t) by derogation and species, 2003-2011 (from left to right).

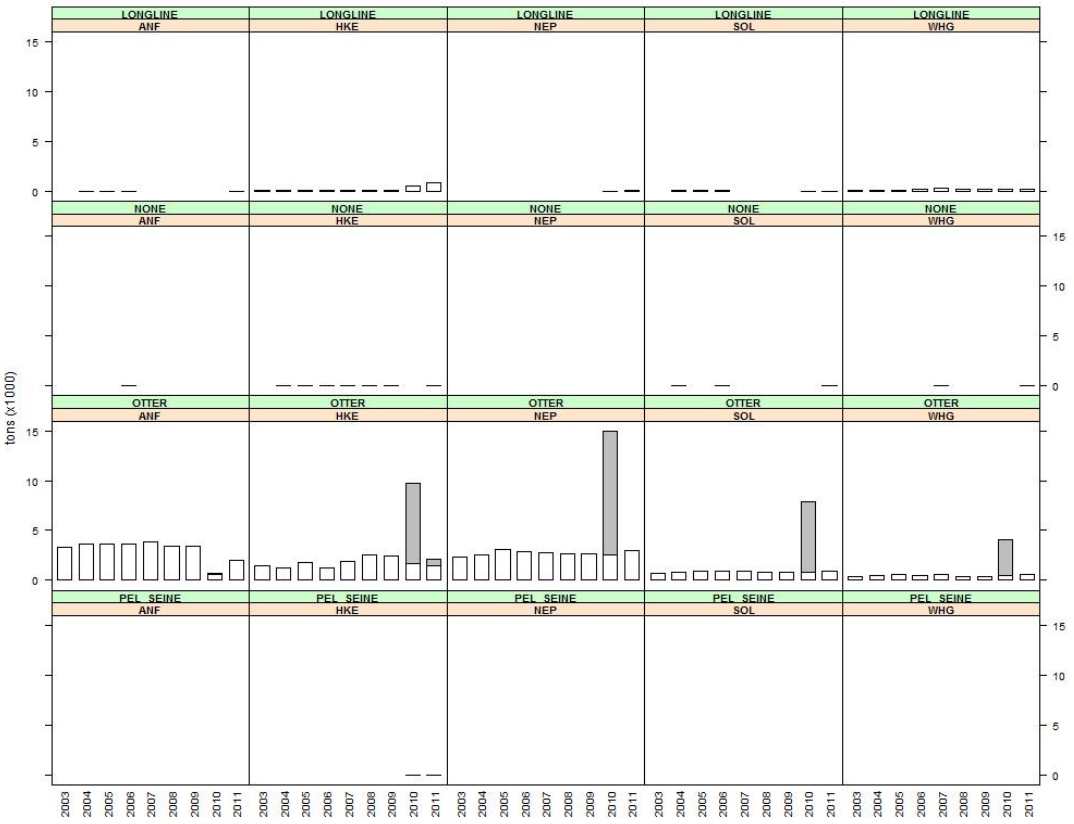


Fig. 5.10.4.2 – Continued - Bay of Biscay - Landings (t) and discard (t) by derogation and species, 2003-2011 (from left to right). Note that information collected on discards is incomplete, so the apparent absence of discards in the figures for a given species/gear does not necessarily means zero discards.

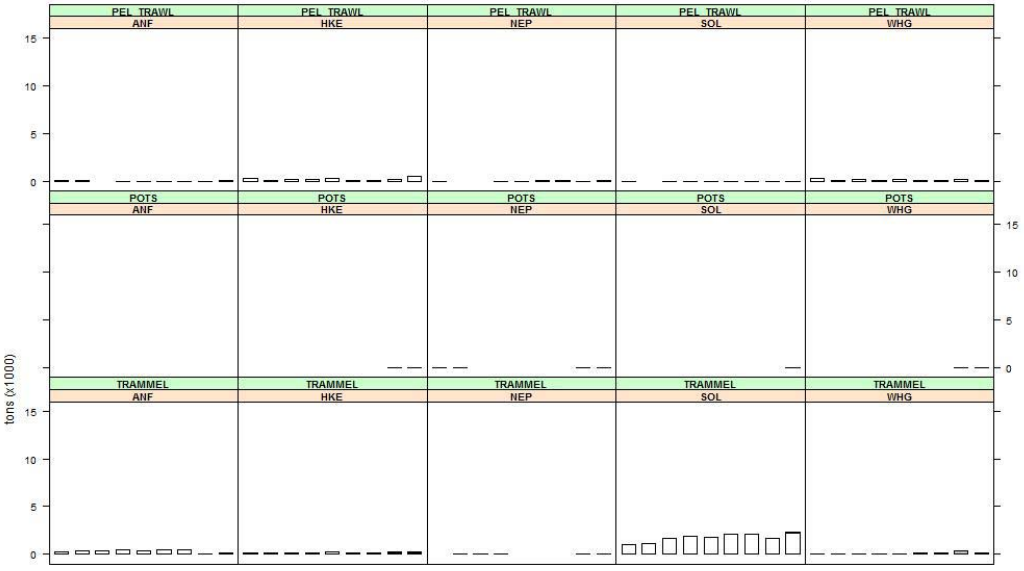


Fig. 5.10.4.2 – Continued - Bay of Biscay - Landings (t) and discard (t) by derogation and species, 2003-2011 (from left to right). Note that information collected on discards is incomplete, so the apparent absence of discards in the figures for a given species/gear does not necessarily means zero discards.

Table 5.10.4.1 – Bay of Biscay - Trend in total landings (t) and discards (t) for AnglerFish (ANF) for vessels concerned by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2003-2011. Derogations are sorted by gear, special conditions (SPECON) and country. Data qualities are summarised in Section 9 of the report.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2003		2004		2005		2006		2007		2008		2009		2010		2011	
					L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D
ANF	BoB	BEAM	none	BEL	116	-	6	-	179	-												
	BoB		none	ENG											1	-						
	BoB		none	FRA	1	-	2	-	2	-	-	-										
	BoB	Total	none		117	-	8	-	181	-	-	-	-	-	1	-	-	-	-	-	-	-
	BoB	BEAM	SBclllartS	BEL							139	-	142	-	187	-	195	70	179	48	195	29
	BoB	Total	SBclllartS		-	-	-	-	-	-	139	-	142	-	187	-	195	70	179	48	195	29
	BoB	DEM_SEINE	none	FRA															-	-	2	-
	BoB	Total	none		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
	BoB	DREDGE	none	FRA	1	-	1	-	1	-	-	-	-	-	1	-	1	-			-	-
	BoB		none	IRL	-	-																
	BoB	Total	none		1	-	1	-	1	-	-	-	-	-	1	-	1	-	-	-	-	-
	BoB	DREDGE	SBclllartS	FRA																	-	-
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	GILL	none	ENG							47	-	17	-	-	-	29	-	81	-	99	-
	BoB		none	FRA	253	-	404	-	481	-	402	-	487	-	459	-	459	-	72	-	154	-
	BoB		none	SCO							27	-	67	-	82	-	67	-	2	-		
	BoB	Total	none		253	-	404	-	481	-	476	-	571	-	541	-	555	-	155	-	253	-
	BoB	GILL	SBclllartS	FRA															1	-	6	-
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	6	-
	BoB	LONGLINE	none	ENG	-	-																
	BoB		none	FRA	-	-	1	-	1	-	2	-	-	-	-	-	-	-	-	-	1	-
	BoB	Total	none		-	-	1	-	1	-	2	-	-	-	-	-	-	-	-	-	1	-
	BoB	LONGLINE	SBclllartS	FRA															-	-	-	-
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	OTTER	none	FRA	3 268	-	3 605	-	3 593	-	3 585	-	3 877	-	3 406	-	3 393	-	453	5	1 475	45
	BoB		none	IRL																	-	-
	BoB	Total	none		3 268	-	3 605	-	3 593	-	3 585	-	3 877	-	3 406	-	3 393	-	453	5	1 475	45
	BoB	OTTER	SBclllartS	FRA															164	111	472	1
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	164	111	472	1
	BoB	PEL_TRAWL	none	FRA	42	-	38	-	-	-	1	-	3	-	5	-	5	-	7	-	10	-
	BoB	Total	none		42	-	38	-	-	-	1	-	3	-	5	-	5	-	7	-	10	-
	BoB	PEL_TRAWL	SBclllartS	FRA																	-	-
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	POTS	none	FRA	-	-			-	-	-	-	-	-					-	-	-	-
	BoB	Total	none		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	TRAMMEL	none	FRA	226	-	352	-	355	-	437	-	380	-	476	-	476	-	10	3	62	4
	BoB	Total	none		226	-	352	-	355	-	437	-	380	-	476	-	476	-	10	3	62	4
	BoB	TRAMMEL	SBclllartS	FRA															12	2	58	9
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	2	58	9
	BoB	none	none	FRA			-	-	-	-	3	-	-	-	-	-	-	-				
	BoB	Total	none		-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-
	BoB	Grand Total			3 907	-	4 409	-	4 612	-	4 643	-	4 973	-	4 617	-	4 625	70	981	169	2 534	88

Table 5.10.4.2 – Bay of Biscay - Trend in total landings (t) and discards (t) for European Hake (HKE) for vessels concerned by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2003-2011. Derogations are sorted by gear, special conditions (SPECON) and country. Data qualities are summarised in Section 9 of the report.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2003		2004		2005		2006		2007		2008		2009		2010		2011	
					L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D
HKE	BoB	BEAM	none	BEL	12	-	10	-	10	-												
	BoB		none	ENG											-	-						
	BoB		none	FRA	2	-	1	-	6	-	-	-										
	BoB	Total	none		14	-	11	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	BEAM	SBclllartS	BEL							10	-	2	-	3	-	6	6	5	4	5	23
	BoB		SBclllartS	FRA															-	-		
	BoB	Total	SBclllartS		-	-	-	-	-	-	10	-	2	-	3	-	6	6	5	4	5	23
	BoB	DEM_SEINE	none	FRA															36	-	41	-
	BoB		none	NLD															-	-		
	BoB	Total	none		-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	-	41	-
	BoB	DEM_SEINE	SBclllartS	FRA																	-	-
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	DREDGE	none	FRA	3	-	-	-	2	-	3	-	1	-	1	-	1	-	1	-	-	-
	BoB	Total	none		3	-	-	-	2	-	3	-	1	-	1	-	1	-	1	-	-	-
	BoB	DREDGE	SBclllartS	FRA															-	-	-	-
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	GILL	none	ENG			29	-	37	-	11	-	-	-	-	-	-	-	-	-	-	-
	BoB		none	FRA	1 628		1 587		2 784		1 360	-	1 026	-	2 493	-	2 485		5 266	575	5 916	51
	BoB		none	SCO	4	-	19	-	69	-	6	-	-	-	20	-	-	-	52	3	73	-
	BoB	Total	none		1 632	-	1 605	-	2 890	-	1 377	-	1 026	-	2 513	-	2 485	-	5 318	578	5 983	51
	BoB	GILL	SBclllartS	FRA															780	435	673	16
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	780	435	673	16
	BoB	LONGLINE	none	ENG									-	-								
	BoB		none	FRA	34	-	22	-	34	-	56	-	78	-	54	-	54	-	417	-	774	-
	BoB		none	SCO							1	-	-	-	-	-			10	-	39	-
	BoB	Total	none		34	-	22	-	34	-	57	-	78	-	54	-	54	-	427	-	813	-
	BoB	LONGLINE	SBclllartS	FRA															22	-	7	-
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	7	-
	BoB	OTTER	none	ENG																	2	6
	BoB		none	FRA	1 408	-	1 234	-	1 716	-	1 269	-	1 906	-	2 486	-	2 472	-	642	73	759	494
	BoB	Total	none		1 408	-	1 234	-	1 716	-	1 269	-	1 906	-	2 486	-	2 472	-	642	73	761	500
	BoB	OTTER	SBclllartS	FRA															995	7 993	705	180
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	995	7 993	705	180
	BoB	PEL_SEINE	none	FRA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-
	BoB	Total	none		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-
	BoB	PEL_TRAWL	none	ENG													-	-	27	-	3	-
	BoB		none	FRA	293	-	48	-	217	-	162	-	271	-	52	-	51	-	110	10	396	-
	BoB		none	NLD															2	-	17	-
	BoB	Total	none		293	-	48	-	217	-	162	-	271	-	52	-	51	-	139	10	418	-
	BoB	PEL_TRAWL	SBclllartS	FRA															9	2	60	-
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	2	60	-
	BoB	POTS	none	FRA							-	-	-	-					5	-	7	-
	BoB	Total	none		-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	7	-
	BoB	POTS	SBclllartS	FRA															1	-	3	-
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	-
	BoB	TRAMMEL	none	ENG													-	-				
	BoB		none	FRA	118	-	124	-	105	-	85	-	195	-	158	-	157	-	9	39	16	4
	BoB	Total	none		118	-	124	-	105	-	85	-	195	-	158	-	157	-	9	39	16	4
	BoB	TRAMMEL	SBclllartS	FRA															168	22	166	54
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	168	22	166	54
	BoB	none	none	FRA			1	-	1	-	1	-	4	-	2	-	2	-			1	-
	BoB	Total	none		-	-	1	-	1	-	1	-	4	-	2	-	2	-	-	-	1	-
	BoB	none	SBclllartS	FRA																	-	-
	BoB	Total	SBclllartS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	Grand Total			3 502	-	3 045	-	4 981	-	2 964	-	3 483	-	5 269	-	5 228	6	8 558	9 156	9 661	828

Table 5.10.4.3 – Bay of Biscay - Trend in total landings (t) and discards (t) for Norway Lobster (NEP) concerned by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2003-2011. Derogations are sorted by gear, special conditions (SPECON) and country. Data qualities are summarised in Section 9 of the report.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2003		2004		2005		2006		2007		2008		2009		2010		2011	
					L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D
NEP	BoB	BEAM	none	BEL	1	-			1	-												
	BoB		none	FRA	2	-	4	-	7	-												
	BoB	Total	none		3	-	4	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	BEAM	SBcIIIart5	BEL							6	-	3	-	1	-	1	-	3	-	3	-
	BoB	Total	SBcIIIart5		-	-	-	-	-	-	6	-	3	-	1	-	1	-	3	-	3	-
	BoB	DREDGE	none	FRA	-	-	-	-	2	-	-	-	-	-	1	-	1	-	2	-		
	BoB	Total	none		-	-	-	-	2	-	-	-	-	-	1	-	1	-	2	-	-	-
	BoB	DREDGE	SBcIIIart5	FRA															-	-		
	BoB	Total	SBcIIIart5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	GILL	none	FRA	1	-	2	-	-	-	2	-	1	-	3	-	3	-	-	-	-	-
	BoB	Total	none		1	-	2	-	-	-	2	-	1	-	3	-	3	-	-	-	-	-
	BoB	GILL	SBcIIIart5	FRA															-	-	1	-
	BoB	Total	SBcIIIart5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
	BoB	LONGLINE	none	FRA	-	-	-	-							-	-	-	-	1	-	16	-
	BoB	Total	none		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	16	-
	BoB	LONGLINE	SBcIIIart5	FRA															-	-		
	BoB	Total	SBcIIIart5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	OTTER	none	FRA	2 329	-	2 506	-	3 123	-	2 908	-	2 801	-	2 659	-	2 650	-	1 223	12 384	1 435	-
	BoB		none	IRL																	4	-
	BoB	Total	none		2 329	-	2 506	-	3 123	-	2 908	-	2 801	-	2 659	-	2 650	-	1 223	12 384	1 439	-
	BoB	OTTER	SBcIIIart5	FRA															1 341	-	1 526	-
	BoB	Total	SBcIIIart5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 341	-	1 526	-
	BoB	PEL_TRAWL	none	FRA	5	-			-	-	2	-	4	-	34	-	34	-	1	-	17	-
	BoB	Total	none		5	-	-	-	-	-	2	-	4	-	34	-	34	-	1	-	17	-
	BoB	PEL_TRAWL	SBcIIIart5	FRA															1	-	2	-
	BoB	Total	SBcIIIart5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-
	BoB	POTS	none	FRA	1	-	2	-	-	-			-	-					3	-	4	-
	BoB	Total	none		1	-	2	-	-	-	-	-	-	-	-	-	-	-	3	-	4	-
	BoB	POTS	SBcIIIart5	FRA															-	-		
	BoB	Total	SBcIIIart5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	TRAMMEL	none	FRA	-	-	1	-	1	-	5	-	-	-	-	-	-	-	2	-	1	-
	BoB	Total	none		-	-	1	-	1	-	5	-	-	-	-	-	-	-	2	-	1	-
	BoB	TRAMMEL	SBcIIIart5	FRA															2	-	-	-
	BoB	Total	SBcIIIart5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
	BoB	none	none	FRA							-	-	-	-	-	-	-	-				
	BoB	Total	none		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	Grand Total			2 339	-	2 515	-	3 134	-	2 923	-	2 809	-	2 698	-	2 689	-	2 579	12 384	3 009	-

Table 5.10.4.4 – Bay of Biscay - Trend in total landings (t) and discards (t) for Whiting (WHG) concerned by existing derogations stated in article 5 of Coun. Reg. 388/2006 and Member State, 2003-2011. Derogations are sorted by gear, special conditions (SPECON) and country. Data qualities are summarised in Section 9 of the report.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2003		2004		2005		2006		2007		2008		2009		2010		2011	
					L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D
WHG	BoB	BEAM	none	BEL	1	-	-	-	3	-												
	BoB		none	FRA	-	-	-	-	-	-												
	BoB	**Total**	**none**		1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	BEAM	SBcIIIart5	BEL							2	-	4	-	1	-	2	2	3	1	1	3
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	2	-	4	-	1	-	2	2	3	1	1	3
	BoB	DEM_SEINE	none	FRA															81	-	143	-
	BoB		none	NLD													-	-	5	-		
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	-	143	-
	BoB	DEM_SEINE	SBcIIIart5	FRA																	-	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	DREDGE	none	FRA	2	-	2	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
	BoB	**Total**	**none**		2	-	2	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
	BoB	DREDGE	SBcIIIart5	FRA															-	-	-	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	GILL	none	FRA	62	-	39	-	53	-	64	-	52	-	55	-	55	-	25	688	15	-
	BoB	**Total**	**none**		62	-	39	-	53	-	64	-	52	-	55	-	55	-	25	688	15	-
	BoB	GILL	SBcIIIart5	FRA															22	4	18	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	18	-
	BoB	LONGLINE	none	FRA	9	-	64	-	110	-	152	-	302	-	170	-	170	-	152	-	195	-
	BoB	**Total**	**none**		9	-	64	-	110	-	152	-	302	-	170	-	170	-	152	-	195	-
	BoB	LONGLINE	SBcIIIart5	FRA															4	-	-	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-
	BoB	OTTER	none	FRA	350	-	418	-	610	-	483	-	576	-	330	-	329	-	148	699	210	-
	BoB	**Total**	**none**		350	-	418	-	610	-	483	-	576	-	330	-	329	-	148	699	210	-
	BoB	OTTER	SBcIIIart5	FRA															287	2 942	356	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	287	2 942	356	-
	BoB	PEL_SEINE	none	FRA							-	-									-	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	PEL_TRAWL	none	FRA	238	-	80	-	130	-	87	-	133	-	45	-	44	-	153	-	71	-
	BoB	**Total**	**none**		238	-	80	-	130	-	87	-	133	-	45	-	44	-	153	-	71	-
	BoB	PEL_TRAWL	SBcIIIart5	FRA															3	-	6	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	6	-
	BoB	POTS	none	FRA									-	-					1	-	28	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	28	-
	BoB	POTS	SBcIIIart5	FRA															-	-	-	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	TRAMMEL	none	FRA	34	-	31	-	42	-	74	-	72	-	87	-	87	-	6	18	4	10
	BoB	**Total**	**none**		34	-	31	-	42	-	74	-	72	-	87	-	87	-	6	18	4	10
	BoB	TRAMMEL	SBcIIIart5	FRA															40	313	76	93
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	313	76	93
	BoB	none	none	FRA	-	-	-	-			-	-	3	-	-	-	-	-			3	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	3	-
	BoB	none	SBcIIIart5	FRA																	-	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	**Grand Total**			696	-	634	-	949	-	863	-	1 142	-	688	-	687	2	930	4 665	1 126	106

5.10.5 ToR 2 Remarks on quality of catches and discard estimates

Discards estimates available in 2010 and 2011 for fisheries of the Bay of Biscay have been dubious in certain cases. Landings figures have therefore been produced in addition of the landings and discards figures.

5.10.6 ToR 3 Information on small boats (<10m)

5.10.6.1 Fishing effort of small boats by Member State

Table 5.10.6.1.1 – Bay of Biscay – Overview of fishing effort in kW*days by fisheries for vessels <10m, comparison with the vessels >=10m, 2003- 2011.

Length Class	REG AREA COD	REG GEAR COD	2003	2004	2005	2006	2007	2008	2009	2010	2011
o. 10m.	Sum o. 10m.		20 208 928	21 055 586	32 716 924	40 283 550	40 128 811	33 566 902	33 302 624	27 963 618	27 574 682
u. 10m.	BoB	BEAM	-	-	-	-	2 552	-	-	2 376	352
	BoB	DREDGE	130 847	113 824	156 906	218 456	122 252	89 947	89 929	118 595	113 582
	BoB	GILL	829 544	746 587	874 201	974 350	973 764	722 318	722 318	1 362 593	1 158 775
	BoB	LONGLINE	236 715	293 392	375 098	834 555	953 642	534 995	534 891	1 291 386	1 282 910
	BoB	OTTER	267 514	300 223	318 094	499 881	534 888	290 303	290 303	544 874	538 344
	BoB	PEL_SEINE	572	-	-	990	4 070	-	-	1 764	6 737
	BoB	PEL_TRAWL	18 611	2 131	6 643	7 409	198	1 419	1 419	83 677	58 825
	BoB	POTS	136 492	114 423	131 759	306 264	360 067	250 780	250 780	847 154	907 244
	BoB	TRAMMEL	342 662	375 530	488 565	809 414	876 285	751 703	751 703	607 225	615 918
	BoB	none	840 236	798 017	762 313	773 527	896 805	831 417	831 411	-	417 635
	Sum u. 10m		2 803 193	2 744 127	3 113 579	4 424 846	4 724 523	3 472 882	3 472 754	4 859 644	5 100 322
	% u.10m		14%	13%	10%	11%	12%	10%	10%	17%	18%

Figure 5.10.6.1.1 – Bay of Biscay – Overview of fishing effort in kW*days by <10m and >=10m vessels, 2003- 2011.

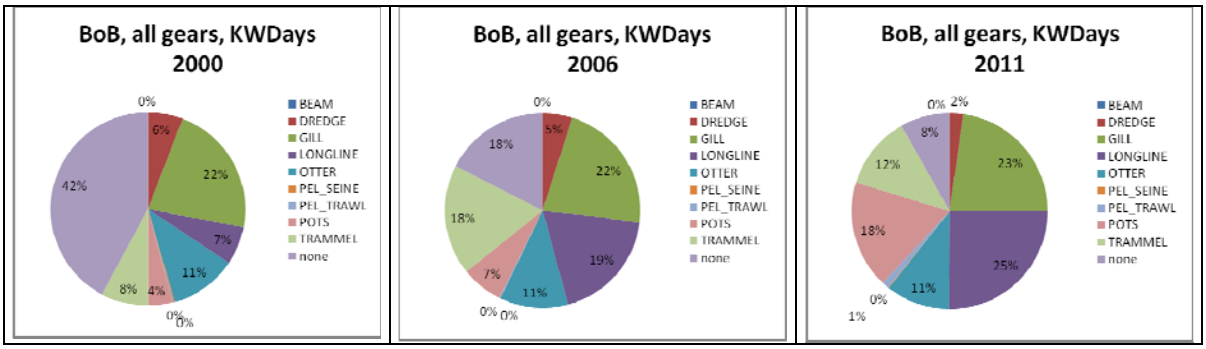


Figure 5.10.6.1.2 Bay of Biscay, Trend in the distribution per gear of the nominal effort (KWDays) for vessels <10m., 2000, 2006 and 2011.

Table 5.10.6.1.2 – Bay of Biscay - Trend in nominal effort (kW*days at sea) for vessels <10m by Member state sorted by gear and special condition (SPECON). Data qualities are summarised in section 9 of the report.

REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BoB	BEAM	none	FRA								2 552			2 376	352
BoB	**Total**	**none**									**2 552**			**2 376**	**352**
BoB	DREDGE	none	ENG									18			
		none	FRA	126 082	114 268	385 932	130 847	113 824	156 906	218 456	122 252	89 929	89 929	114 673	112 922
BoB	**Total**	**none**		**126 082**	**114 268**	**385 932**	**130 847**	**113 824**	**156 906**	**218 456**	**122 252**	**89 947**	**89 929**	**114 673**	**112 922**
BoB	DREDGE	SBclIIart5	FRA											3 922	660
BoB	**Total**	**SBclIIart5**												**3 922**	**660**
BoB	GILL	none	ENG							76	50				
		none	FRA	480 698	604 354	2 259 415	829 544	746 587	874 201	974 274	973 714	722 318	722 318	1 191 380	979 126
BoB	**Total**	**none**		**480 698**	**604 354**	**2 259 415**	**829 544**	**746 587**	**874 201**	**974 350**	**973 764**	**722 318**	**722 318**	**1 191 380**	**979 126**
BoB	GILL	SBclIIart5	FRA											171 213	179 649
BoB	**Total**	**SBclIIart5**												**171 213**	**179 649**
BoB	LONGLINE	none	ENG									104			
		none	FRA	137 849	151 200	531 733	236 715	293 392	375 098	834 555	953 642	534 891	534 891	1 268 026	1 225 133
BoB	**Total**	**none**		**137 849**	**151 200**	**531 733**	**236 715**	**293 392**	**375 098**	**834 555**	**953 642**	**534 995**	**534 891**	**1 268 026**	**1 225 133**
BoB	LONGLINE	SBclIIart5	FRA											23 360	57 777
BoB	**Total**	**SBclIIart5**												**23 360**	**57 777**
BoB	OTTER	none	FRA	241 243	292 644	1 168 369	267 514	300 223	318 094	499 881	534 888	290 303	290 303	403 682	392 370
BoB	**Total**	**none**		**241 243**	**292 644**	**1 168 369**	**267 514**	**300 223**	**318 094**	**499 881**	**534 888**	**290 303**	**290 303**	**403 682**	**392 370**
BoB	OTTER	SBclIIart5	FRA											141 192	145 974
BoB	**Total**	**SBclIIart5**												**141 192**	**145 974**
BoB	PEL_SEINE	none	FRA	5 028	10 816		572			990	4 070			1 764	6 737
BoB	**Total**	**none**		**5 028**	**10 816**		**572**			**990**	**4 070**			**1 764**	**6 737**
BoB	PEL_TRAWL	none	FRA	3 779	16 084	170 025	18 611	2 131	6 643	7 409	198	1 419	1 419	81 181	58 136
BoB	**Total**	**none**		**3 779**	**16 084**	**170 025**	**18 611**	**2 131**	**6 643**	**7 409**	**198**	**1 419**	**1 419**	**81 181**	**58 136**
BoB	PEL_TRAWL	SBclIIart5	FRA											2 496	689
BoB	**Total**	**SBclIIart5**												**2 496**	**689**
BoB	POTS	none	ENG							592				59	
		none	FRA	88 512	87 342	403 162	136 492	114 423	131 759	305 672	360 067	250 780	250 780	839 660	878 182
BoB	**Total**	**none**		**88 512**	**87 342**	**403 162**	**136 492**	**114 423**	**131 759**	**306 264**	**360 067**	**250 780**	**250 780**	**839 719**	**878 182**
BoB	POTS	SBclIIart5	FRA											7 435	29 062
BoB	**Total**	**SBclIIart5**												**7 435**	**29 062**
BoB	TRAMMEL	none	FRA	169 753	198 398	1 095 507	342 662	375 530	488 565	809 414	876 285	751 703	751 703	460 576	460 807
BoB	**Total**	**none**		**169 753**	**198 398**	**1 095 507**	**342 662**	**375 530**	**488 565**	**809 414**	**876 285**	**751 703**	**751 703**	**460 576**	**460 807**
BoB	TRAMMEL	SBclIIart5	FRA											146 649	155 111
BoB	**Total**	**SBclIIart5**												**146 649**	**155 111**
BoB	none	none	DNK	6	8	27	23	30	30	37	30	12	6		
		none	FRA	912 675	985 673	4 318 096	840 213	797 987	762 283	773 490	896 775	831 405	831 405		410 811
BoB	**Total**	**none**		**912 681**	**985 681**	**4 318 123**	**840 236**	**798 017**	**762 313**	**773 527**	**896 805**	**831 417**	**831 411**		**410 811**
BoB	none	SBclIIart5	FRA												6 824
BoB	**Total**	**SBclIIart5**													**6 824**

Table 5.10.6.1.3 – Bay of Biscay - Trend in number of vessels for vessels <10m and Member State sorted by gear and special condition (SPECON). Data qualities are summarised in section 9 of the report.

REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BoB	BEAM	none	FRA								1			1	1
BoB	**Total**	**none**									**1**			**1**	**1**
BoB	DREDGE	none	ENG									1			
		none	FRA	43	36	44	52	27	32	38	25	15	15	23	14
BoB	**Total**	**none**		**43**	**36**	**44**	**52**	**27**	**32**	**38**	**25**	**16**	**15**	**23**	**14**
BoB	DREDGE	SBcIIIart5	FRA											2	1
BoB	**Total**	**SBcIIIart5**												**2**	**1**
BoB	GILL	none	ENG							2	1				
		none	FRA	49	37	33	32	34	29	49	48	35	35	58	57
BoB	**Total**	**none**		**49**	**37**	**33**	**32**	**34**	**29**	**51**	**49**	**35**	**35**	**58**	**57**
BoB	GILL	SBcIIIart5	FRA											5	7
BoB	**Total**	**SBcIIIart5**												**5**	**7**
BoB	LONGLINE	none	ENG									1			
		none	FRA	23	20	36	52	55	62	150	153	91	90	171	168
BoB	**Total**	**none**		**23**	**20**	**36**	**52**	**55**	**62**	**150**	**153**	**92**	**90**	**171**	**168**
BoB	LONGLINE	SBcIIIart5	FRA											3	7
BoB	**Total**	**SBcIIIart5**												**3**	**7**
BoB	OTTER	none	FRA	24	18	23	16	19	14	36	50	27	27	28	31
BoB	**Total**	**none**		**24**	**18**	**23**	**16**	**19**	**14**	**36**	**50**	**27**	**27**	**28**	**31**
BoB	OTTER	SBcIIIart5	FRA											9	10
BoB	**Total**	**SBcIIIart5**												**9**	**10**
BoB	PEL_SEINE	none	FRA	3	1		1			2	1			1	2
BoB	**Total**	**none**		**3**	**1**		**1**			**2**	**1**			**1**	**2**
BoB	PEL_TRAWL	none	FRA	4	2	2	2	1	1	7	1	1	1	123	50
BoB	**Total**	**none**		**4**	**2**	**2**	**2**	**1**	**1**	**7**	**1**	**1**	**1**	**123**	**50**
BoB	PEL_TRAWL	SBcIIIart5	FRA											5	2
BoB	**Total**	**SBcIIIart5**												**5**	**2**
BoB	POTS	none	ENG							1				1	
		none	FRA	14	15	20	22	25	26	58	66	49	49	130	135
BoB	**Total**	**none**		**14**	**15**	**20**	**22**	**25**	**26**	**59**	**66**	**49**	**49**	**131**	**135**
BoB	POTS	SBcIIIart5	FRA											3	5
BoB	**Total**	**SBcIIIart5**												**3**	**5**
BoB	TRAMMEL	none	FRA	19	18	20	23	31	29	56	78	68	65	32	32
BoB	**Total**	**none**		**19**	**18**	**20**	**23**	**31**	**29**	**56**	**78**	**68**	**65**	**32**	**32**
BoB	TRAMMEL	SBcIIIart5	FRA											4	4
BoB	**Total**	**SBcIIIart5**												**4**	**4**
BoB	none	none	DNK	1	1	1	1	1	1	1	1	1	1		
		none	FRA	408	383	415	383	345	367	320	364	311	311		149
BoB	**Total**	**none**		**409**	**384**	**416**	**384**	**346**	**368**	**321**	**365**	**312**	**312**		**149**
BoB	none	SBcIIIart5	FRA												7
BoB	**Total**	**SBcIIIart5**													**7**

5.10.6.2 Catches (landings and discards) of sole and associated species by small boats by Member State

Table 5.10.6.2.1 – Bay of Biscay – Overview of landings (t) by principal species, by fisheries by vessels <10m, compare with vessels >=10m, 2003- 2011.

Length Class	REG AREA COD	REG GEAR COD	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
o. 10m.	Sum_o10m		ANF	3907	4410	4611	4644	4974	4618	4624	980	2534
u. 10m.	BoB	DREDGE	ANF				0	0	0	0		
	BoB	GILL	ANF	24	32	10	8	3	2	2	13	12
	BoB	LONGLINE	ANF	0			0	0	0	0	1	1
	BoB	OTTER	ANF	0	1	1	2	0	0	0	2	1
	BoB	PEL_SEINE	ANF				0					
	BoB	POTS	ANF		0	0	0	0	0	0	0	0
	BoB	TRAMMEL	ANF	10	12	53	45	29	17	17	4	8
	Sum_u10m			34	45	64	55	32	19	19	20	22
	% u.10m			1%	1%	1%	1%	1%	0%	0%	2%	1%
o. 10m.	Sum_o10m		HKE	3502	3046	4981	2964	3483	5269	5228	8558	9660
u. 10m.	BoB	DREDGE	HKE								0	0
	BoB	GILL	HKE	59	55	39	76	61	58	58	106	37
	BoB	LONGLINE	HKE	18	20	8	12	27	30	30	46	85
	BoB	none	HKE									0
	BoB	OTTER	HKE	9	5	8	12	58	30	30	27	17
	BoB	PEL_TRAWL	HKE	0			0				0	
	BoB	POTS	HKE			0		0			1	2
	BoB	TRAMMEL	HKE	12	9	7	8	10	19	19	15	7
	Sum_u10m			98	89	62	108	156	137	137	195	148
	% u.10m			3%	3%	1%	4%	4%	3%	3%	2%	2%
o. 10m.	Sum_o10m		NEP	2340	2515	3134	2923	2809	2698	2689	2579	3010
u. 10m.	BoB	DREDGE	NEP								0	
	BoB	GILL	NEP	0		0	0				0	1
	BoB	LONGLINE	NEP									0
	BoB	OTTER	NEP	4	7	21	14	9			17	19
	BoB	POTS	NEP				1				0	2
	BoB	TRAMMEL	NEP								3	0
	Sum_u10m			4	7	21	15	9	0	0	20	22
	% u.10m			0%	0%	1%	1%	0%	0%	0%	1%	1%
o. 10m.	Sum_o10m		SOL	2252	2514	3267	3396	3251	3310	3377	2986	3600
u. 10m.	BoB	DREDGE	SOL				0	0	0	0	0	0
	BoB	GILL	SOL	26	30	29	27	32	7	7	155	87
	BoB	LONGLINE	SOL	0	0	0	0	0	0	0	2	5
	BoB	none	SOL		1				0	0		0
	BoB	OTTER	SOL	33	38	26	58	72	23	23	73	70
	BoB	PEL_SEINE	SOL									0
	BoB	PEL_TRAWL	SOL				0				0	0
	BoB	POTS	SOL	0			0	0	0	0	5	2
	BoB	TRAMMEL	SOL	35	52	50	103	120	103	103	62	115
	Sum_u10m			94	121	105	188	224	133	133	297	279
	% u.10m			4%	5%	3%	6%	7%	4%	4%	10%	8%
o. 10m.	Sum_o10m		WHG	696	634	949	863	1142	688	687	929	1127
u. 10m.	BoB	DREDGE	WHG					0			0	0
	BoB	GILL	WHG	9	11	16	25	9	8	8	31	36
	BoB	LONGLINE	WHG	3	30	32	38	55	26	26	69	68
	BoB	none	WHG		0							
	BoB	OTTER	WHG	1	2	2	6	4	1	1	14	19
	BoB	PEL_SEINE	WHG								0	
	BoB	PEL_TRAWL	WHG	1			0				0	0
	BoB	POTS	WHG			0		0			1	3
	BoB	TRAMMEL	WHG	2	3	6	11	5	2	2	6	6
	Sum_u10m			16	46	56	80	73	37	37	121	132
	% u.10m			2%	7%	6%	9%	6%	5%	5%	13%	12%

Table 5.10.6.2 – Bay of Biscay - Trend in total landings (t) and discards (t) for SOL for vessels <10m. sorted by gear, special condition (SPECON) and country. Data qualities are summarised in Section 9 of the report.

SPECIES	REG AREA COD	REG GEAR COD	SPECON	COUNTRY	2003		2004		2005		2006		2007		2008		2009		2010		2011	
					L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D
SOL	BoB	DREDGE	none	FRA							-	-	-	-	-	-	-	-	-	-	-	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	DREDGE	SBcIIIart5	FRA															-	-		
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	GILL	none	FRA	26	-	30	-	29	-	27	-	32	-	7	-	7	-	35	96	33	-
	BoB	**Total**	**none**		26	-	30	-	29	-	27	-	32	-	7	-	7	-	35	96	33	-
	BoB	GILL	SBcIIIart5	FRA															120	-	54	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	-	54	-
	BoB	LONGLINE	none	FRA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
	BoB	LONGLINE	SBcIIIart5	FRA															1	-	3	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	-
	BoB	OTTER	none	FRA	33	-	38	-	26	-	58	-	72	-	23	-	23	-	19	-	23	-
	BoB	**Total**	**none**		33	-	38	-	26	-	58	-	72	-	23	-	23	-	19	-	23	-
	BoB	OTTER	SBcIIIart5	FRA															53	-	47	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	-	47	-
	BoB	PEL_SEINE	none	FRA																	-	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	PEL_TRAWL	none	FRA							-	-							-	-	-	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	POTS	none	FRA	-	-					-	-	-	-	-	-	-	-	3	-	2	-
	BoB	**Total**	**none**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	2	-
	BoB	POTS	SBcIIIart5	FRA															2	-	-	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
	BoB	TRAMMEL	none	FRA	35	-	52	-	50	-	103	-	120	-	103	-	103	-	35	25	35	-
	BoB	**Total**	**none**		35	-	52	-	50	-	103	-	120	-	103	-	103	-	35	25	35	-
	BoB	TRAMMEL	SBcIIIart5	FRA															27	2	80	-
	BoB	**Total**	**SBcIIIart5**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	2	80	-
	BoB	none	none	FRA			1	-							-	-	-	-			-	-
	BoB	**Total**	**SBcIIIart5**		-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BoB	**Grand Total**			**94**	-	**121**	-	**105**	-	**188**	-	**224**	-	**133**	-	**133**	-	**296**	**123**	**278**	-

5.10.7 ToR 4 Spatio-temporal patterns in effective effort by fisheries

Figure 5.10.7.1 to 5.10.7.10 show the spatial distribution of the effective fishing effort for all the different fisheries operating in the Bay of Biscay during the period 2003 to 2011. The pattern seems similar for the whole period for most of the fleets.

The effort is mostly distributed all across the gulf with somewhat higher values close to the estuaries (Gironde, baie de vilaine).

For trammel and otter, that are the two fisheries for which the effort increased between 2003-2007, the spatial effort allocation seems to follow the same trends, starting mainly in south Brittany and increasing in all the area in the following years.

The demersal seine fishery started in 2009 and increased in 2010 and 2011.

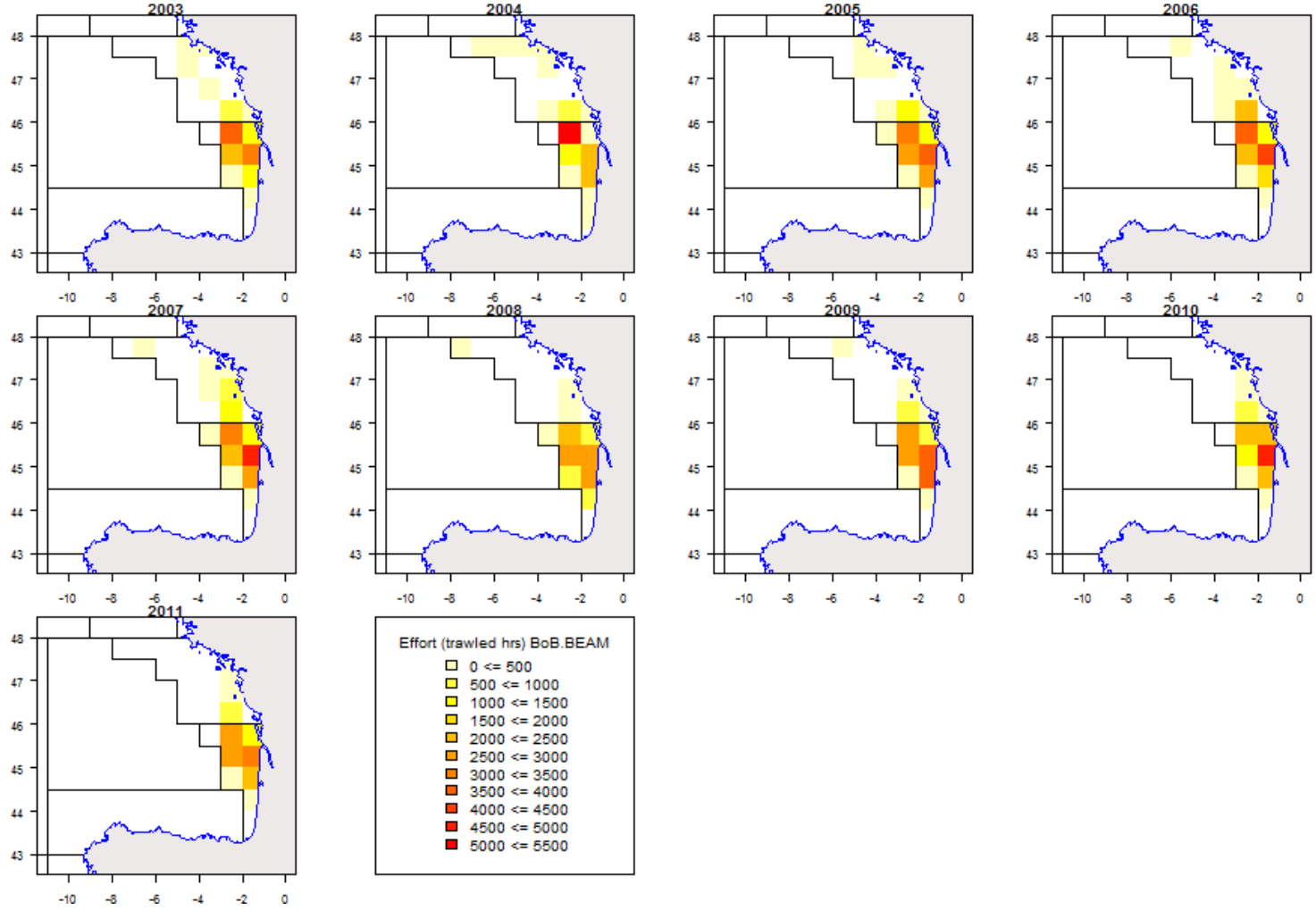


Figure 5.10.7.1. Bay of Biscay. Spatial distribution of effective fishing effort (fished hours) by ICES statistical rectangle for the Beam trawl gear, 2003-2011.

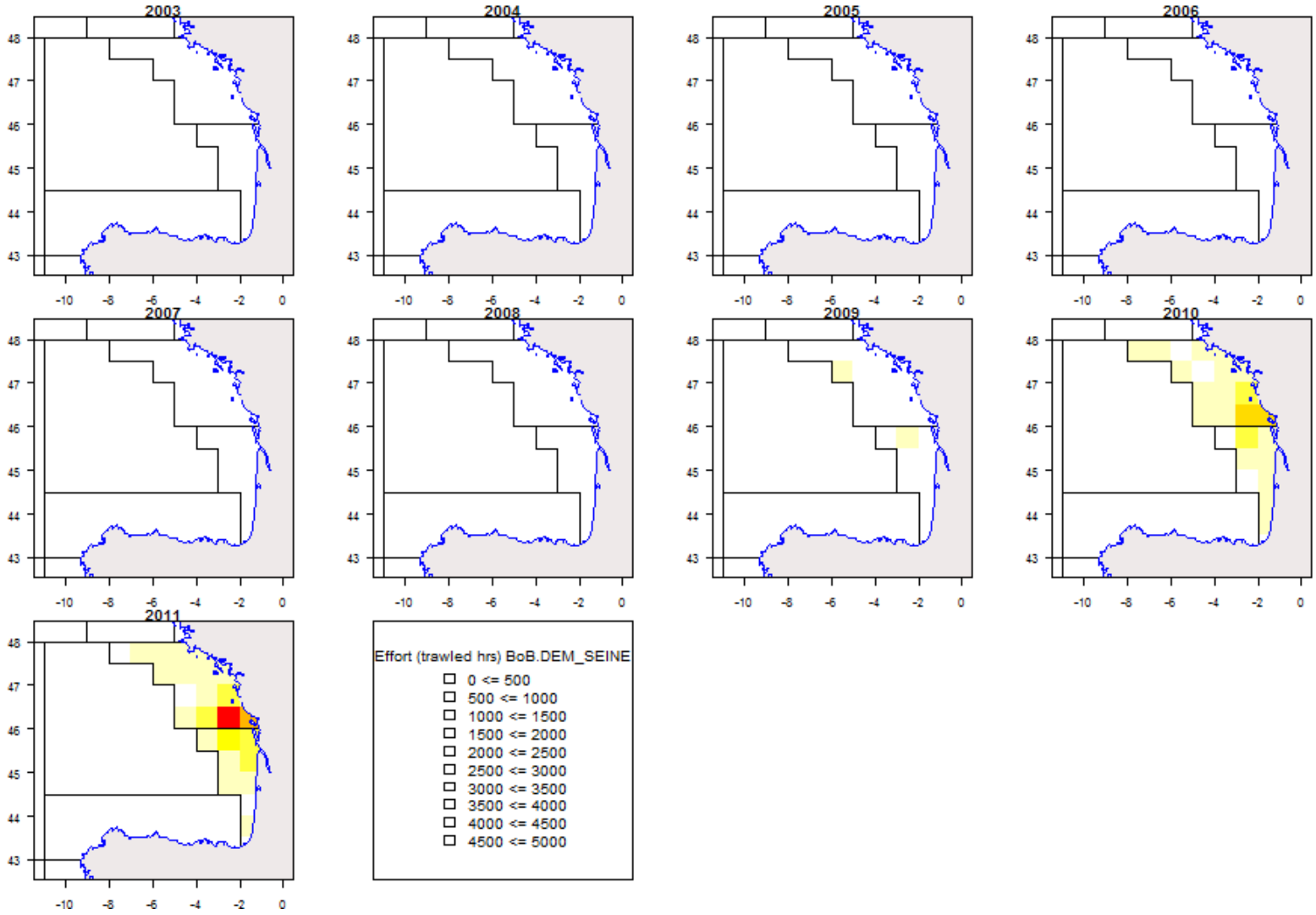


Figure 5.10.7.2. Bay of Biscay. Spatial distribution of effective fishing effort (fished hours) by ICES statistical rectangle for Demersal Seine gear, 2003-2011.

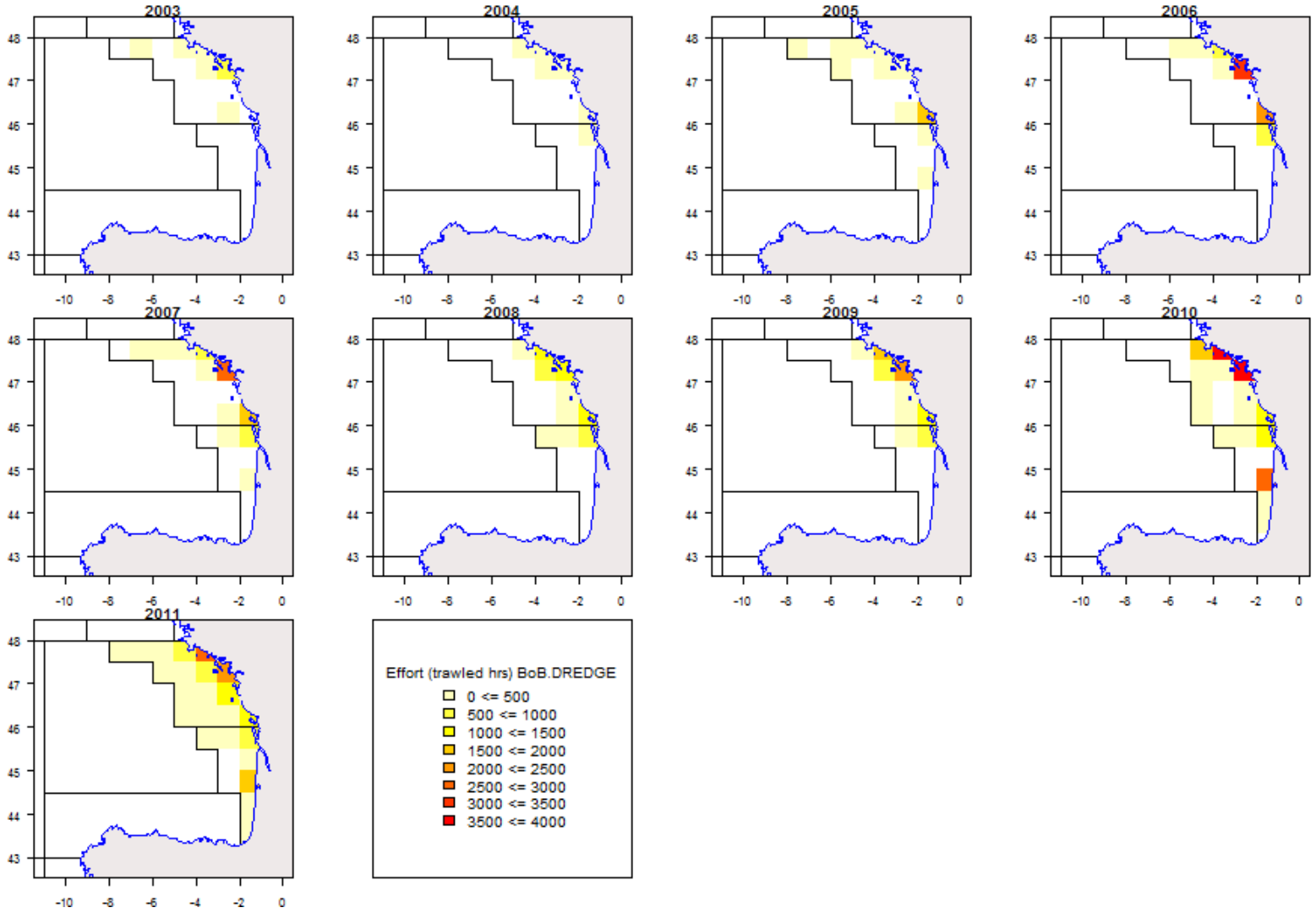


Figure 5.10.8.3. Bay of Biscay. Spatial distribution of effective fishing effort (fished hours) by ICES statistical rectangle for Dredge gear, 2003-2011.

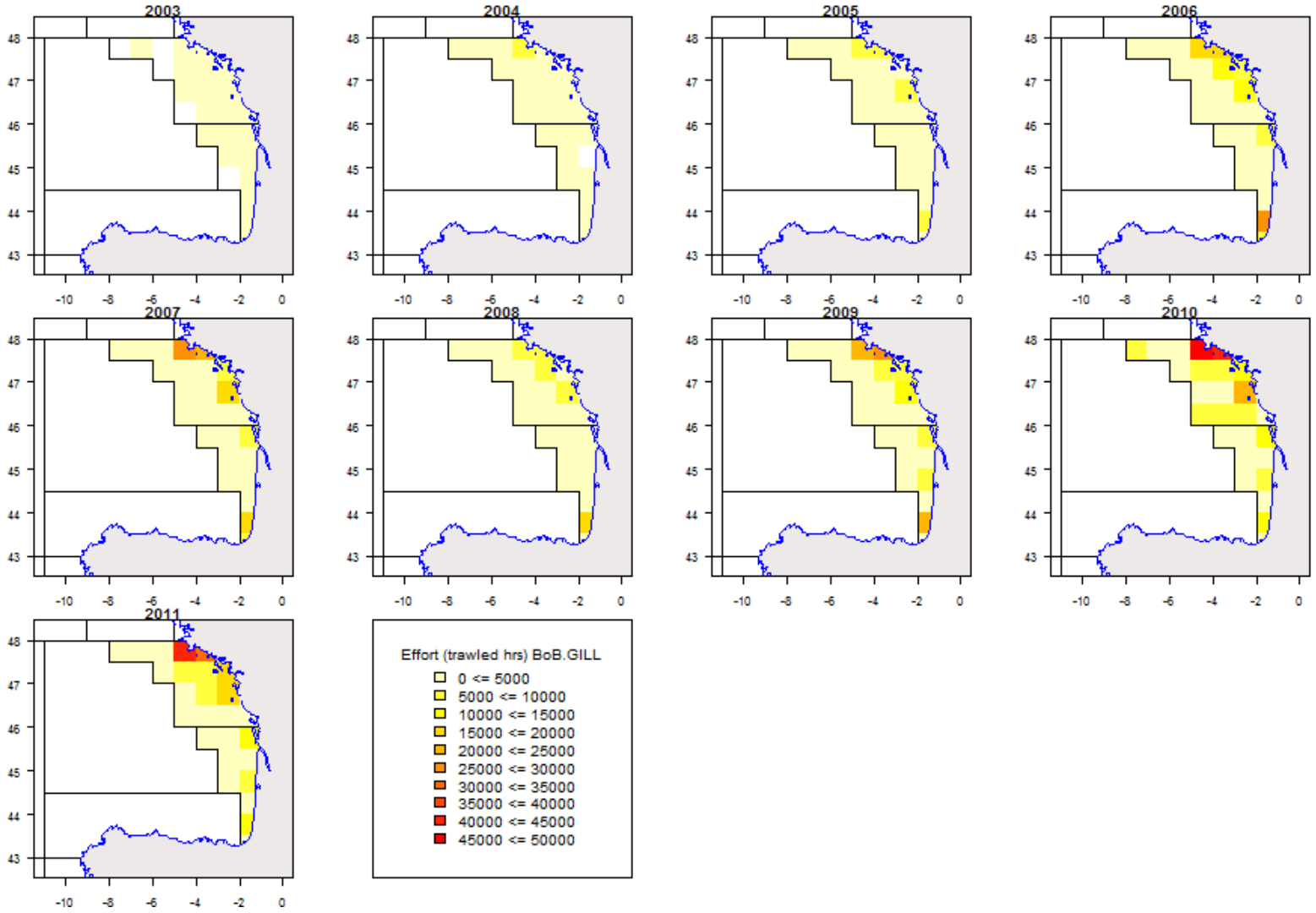


Figure 5.10.7.4. Bay of Biscay. Spatial distribution of effective fishing effort (fished hours) by ICES statistical rectangle for Gill net gear, 2003-2011.

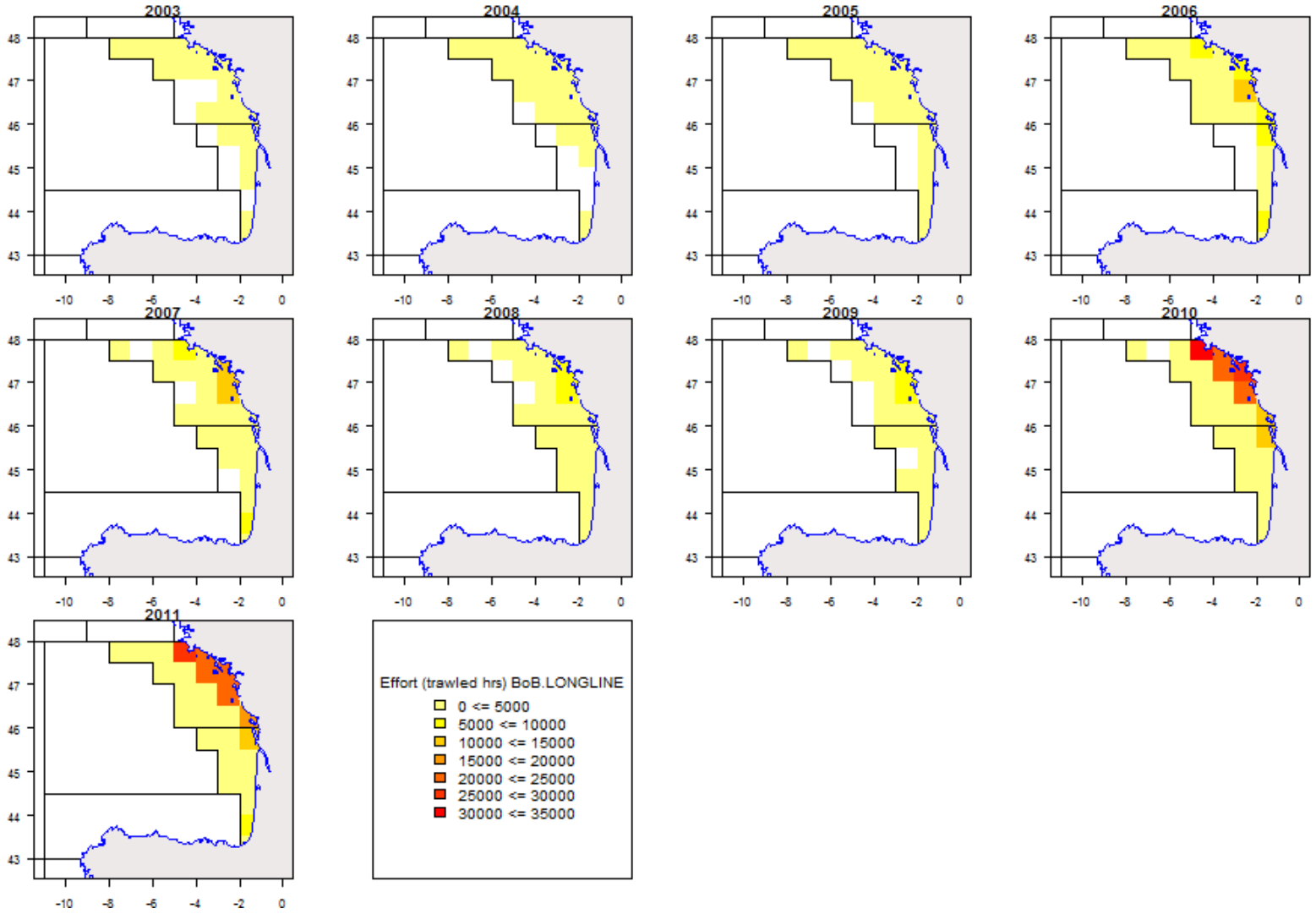


Figure 5.10.8.5. Bay of Biscay. Spatial distribution of effective fishing effort (fished hours) by ICES statistical rectangle for Longline gear, 2003-2011.

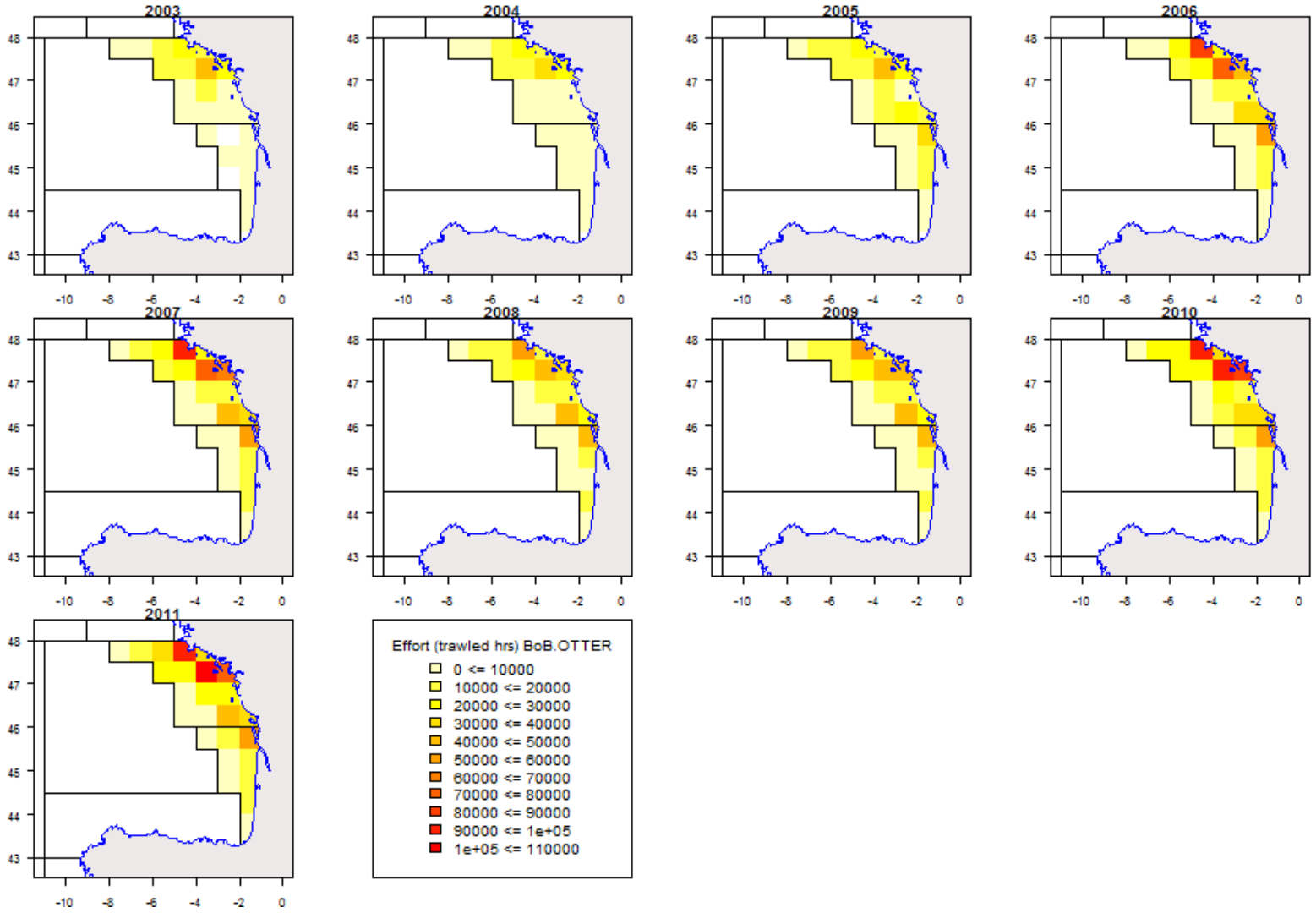


Figure 5.10.8.6. Bay of Biscay. Spatial distribution of effective fishing effort (fished hours) by ICES statistical rectangle for Otter Trawl gear, 2003-2011.

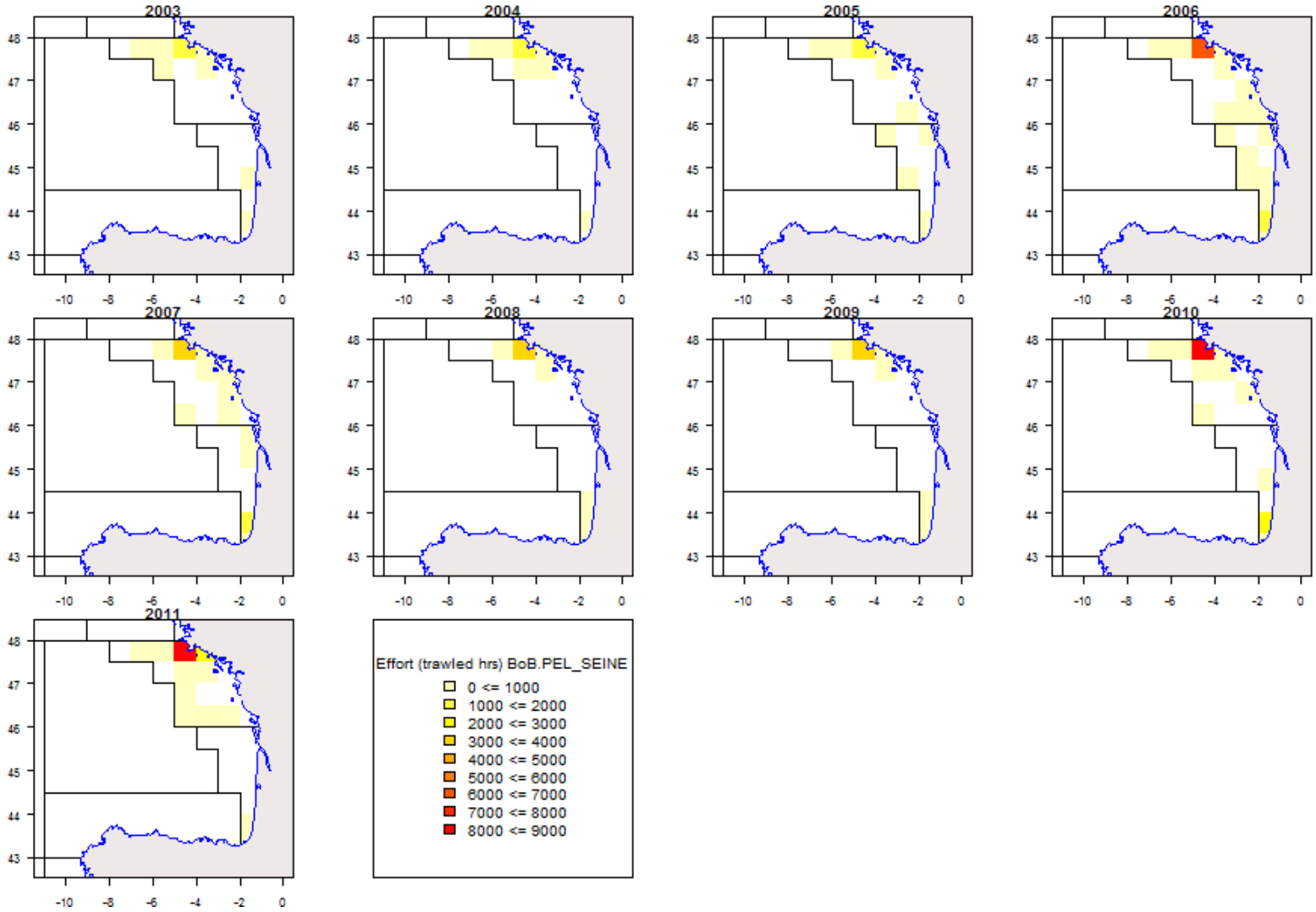


Figure 5.10.7.7. Bay of Biscay. Spatial distribution of effective fishing effort (fished hours) by ICES statistical rectangle for Pelagic Seine gear, 2003-2011.

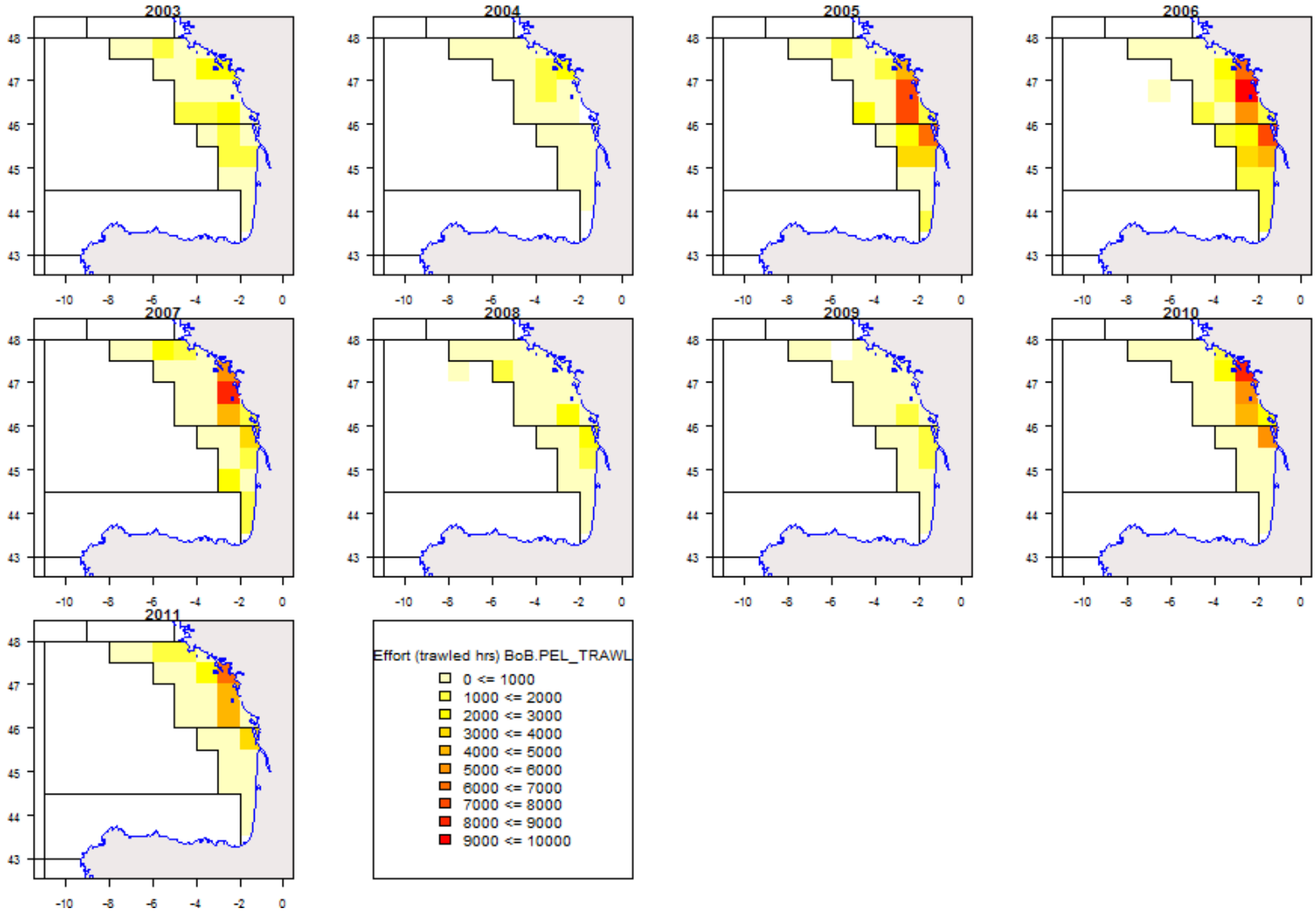


Figure 5.10.7.8. Bay of Biscay. Spatial distribution of effective fishing effort (fished hours) by ICES statistical rectangle for Pelagic Trawl gear, 2003-2011.

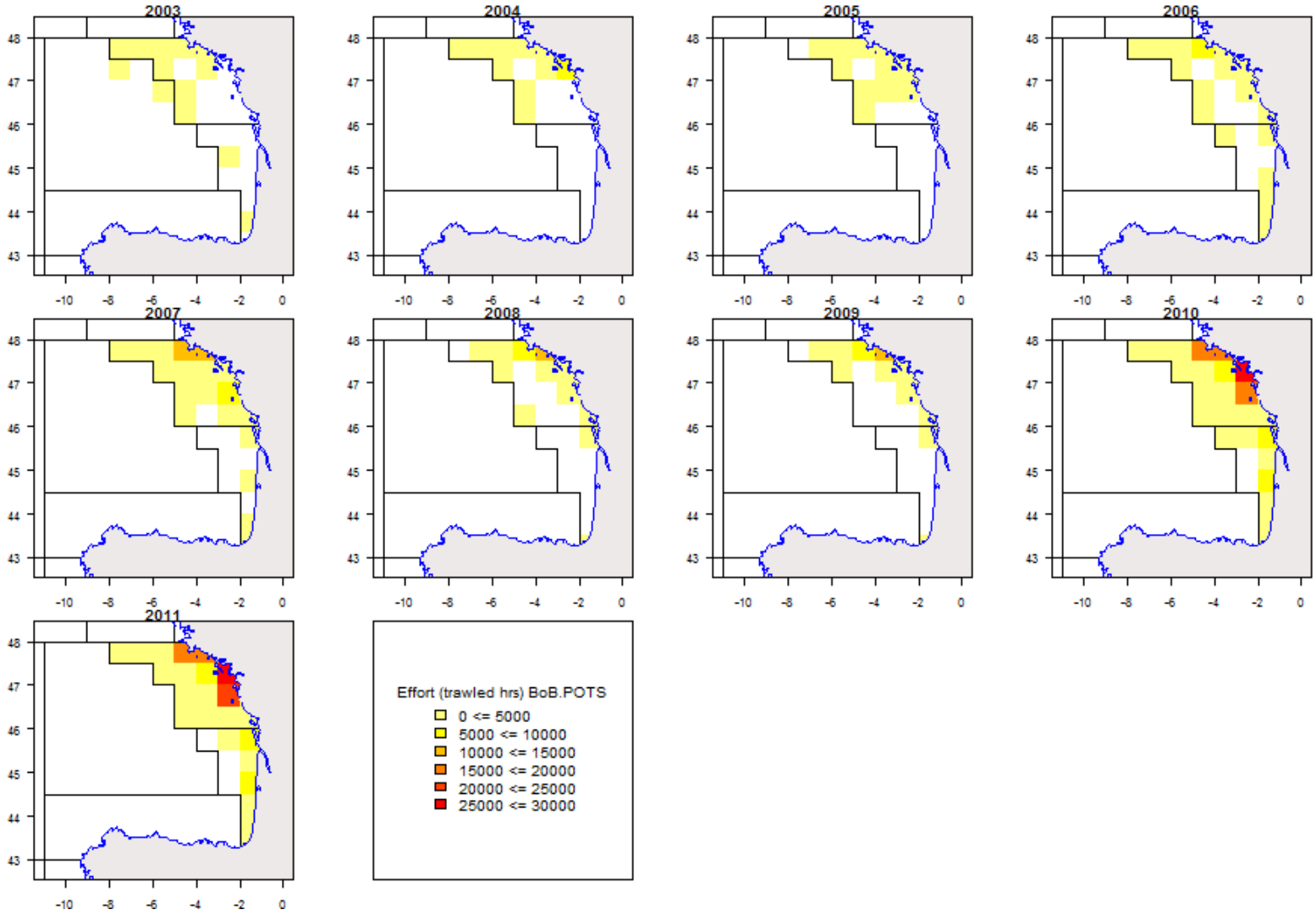


Figure 5.10.7.9. Bay of Biscay. Spatial distribution of effective fishing effort (fished hours) by ICES statistical rectangle for Pot gear, 2003-2011.

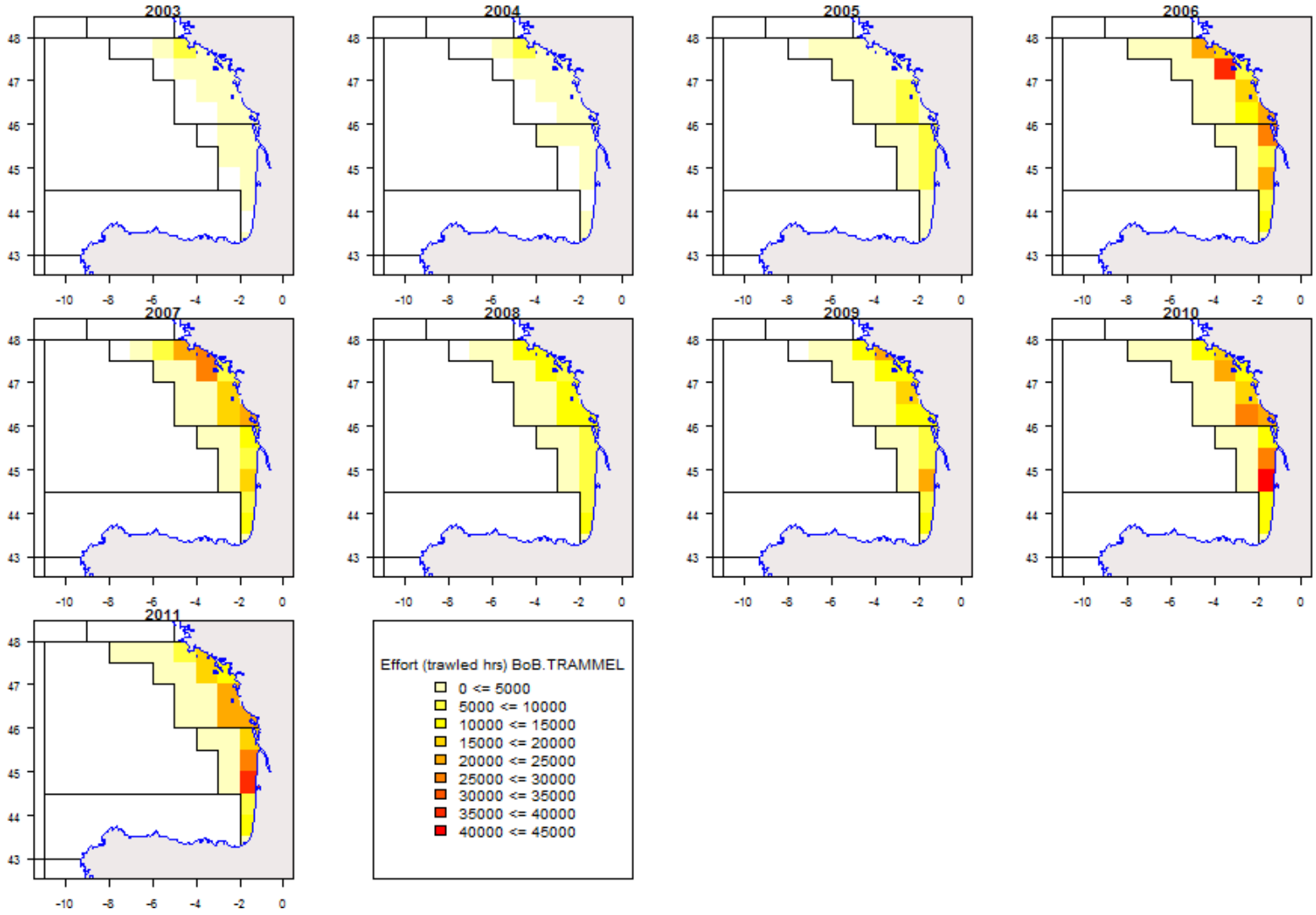


Figure 5.10.7.10. Bay of Biscay. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Trammel net gear, 2003-2011.

5.10.8 ToR 5 Any unexpected evolutions of the trends in catches and effort by Member State and fisheries

STECF EWG 12-12 has no comments.

5.10.9 ToR 6 Correlation between partial sole mortality and fishing effort by Member State and fisheries

Fisheries specific data are broken down considering the specific condition SBCIIIART5 which is only provided for 2010 and 2011 for French vessels and since 2006 for Belgian vessels, introducing a shift for the main gear type from the "none" category to the SPECON "SBCIIIART5" (Table 5.10.9.1).

As well, discards estimates available in 2010 and 2011 for fisheries of the Bay of Biscay are scarce (Information collected on discards is incomplete) and have been dubious in certain cases, in particular for gear OTTER for France in 2010 (see figure 5.10.4.2 and table 5.10.3.2). Therefore, discards estimates for gear OTTER for France in 2010 have not been taken into account in the analysis presented below.

The STECF EWG 12-12 has estimated partial fishing mortalities of stock of Bay of Biscay sole for all identified regulated and non-regulated gear groups by Member States and correlated them against fishing effort. The major fisheries are presented below (Table 5.10.9.1 and Figure 5.10.9.1). The presented parameters r (absolute value of Pearson's coefficient of correlation) as well as a p value to quantify the statistical significance (≤ 0.05) allows conclusions about the quality of the correlation between the partial F and fisheries specific fishing effort.

The listed fisheries do contribute by more than 75% to the total fishing mortality. The relevant fisheries are the beam trawl fishery by Belgium and the gill net, trammel net and otter trawl fisheries by France. Spanish data are not available.

STECF EWG 12-12 notes that the correlations between the summed partial Fs for landings of the major fisheries and their estimated fishing efforts are in general not significant (except for the trammel fishery of France). The partial Fs of these major fisheries and for the combined fleets presented below are in general not correlated with their specific effort estimates in kW days at sea. This indicates that effective fisheries management by fishing effort in units of kWdays at sea seems to be not possible but analysis must be gone into the depth with an improved data set. The only fishery with a relevant correlation is the France trammel nets with specon none with a Pearson's coefficient of correlation of about 0.72 and a p value of 0.03 when the special condition is disregarded (Fig. 5.10.9.1).

Table 5.10.9.1 Bay of Biscay sole. The left part of the table lists estimated F trajectories from the management plan and the ICES 2012 sole assessment, as well as partial Fs for landings of fisheries using major gears, specon assigns the licensed part of the fisheries. The right part of the table lists the respective trends in fishing effort (kW days at sea) as well as the correlation parameters between the partial Fs and the fisheries specific fishing effort. A complete set of all partial Fs of fisheries is downloadable from the meeting's internet site. The ratio of the sum of Fpar/F indicates the relative contribution of the partial Fs of all effort regulated gears to the overall F estimate of the stock. Note that Spanish data are not available.

2007 F reductions by 10 percent unitl F<=Fmsy=0.26										Reference year				
							2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
F plan							0.4785	0.3621	0.4508	0.4179	0.37611	0.3385	0.30465	0.27418	0.26	0.26
reduction F plan												-0.10	-0.10	-0.10	-0.05	0.00
F estimated							0.4785	0.3621	0.4508	0.4179	0.4256	0.4454	0.4067	0.3908	0.4819	
reduction F estimated												0.05	-0.09	-0.04	0.23	
F par estimated as F*landings or discards(fishery)/Catch(total)							2003	2004	2005	2006	2007	2008	2009	2010	2011	
BoB	BoB	SOL	BEL	BEAM	none	landings	0.034	0.029	0.035	0.000	0.000	0.000	0.000	0.000	0.000	
BoB	BoB	SOL	BEL	BEAM	SBcIIIart5	landings	0.000	0.000	0.000	0.033	0.039	0.030	0.040	0.044	0.040	
BoB	BoB	SOL	ENG	BEAM	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
BoB	BoB	SOL	ENG	GILL	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
BoB	BoB	SOL	FRA	BEAM	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
BoB	BoB	SOL	FRA	BEAM	SBcIIIart5	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
BoB	BoB	SOL	FRA	DEM_SEINE	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
BoB	BoB	SOL	FRA	DREDGE	none	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
BoB	BoB	SOL	FRA	DREDGE	SBcIIIart5	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
BoB	BoB	SOL	FRA	GILL	none	landings	0.028	0.027	0.038	0.024	0.015	0.016	0.018	0.001	0.001	
BoB	BoB	SOL	FRA	GILL	SBcIIIart5	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.009	
BoB	BoB	SOL	FRA	LONGLINE	none	landings	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	
BoB	BoB	SOL	FRA	LONGLINE	SBcIIIart5	landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
BoB	BoB	SOL	FRA	none	none	landings	0	9E-05	0	0.00044	0	0	0	0	0	
BoB	BoB	SOL	FRA	none	SBcIIIart5	landings	0	0	0	0	0	0	0	0	0.00021	
BoB	BoB	SOL	FRA	OTTER	none	landings	0.0830	0.0674	0.0859	0.0776	0.0925	0.0805	0.0861	0.0148	0.0193	
BoB	BoB	SOL	FRA	OTTER	SBcIIIart5	landings	0	0	0	0	0	0	0	0.06366	0.07042	
BoB	BoB	SOL	FRA	PEL_SEINE	none	landings	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
BoB	BoB	SOL	FRA	PEL_TRAWL	none	landings	0.00023	0	0.0002	8.7E-05	0.0002	0.00052	0.00056	0	0.00021	
BoB	BoB	SOL	FRA	PEL_TRAWL	SBcIIIart5	landings	0	0	0	0	0	0	0	0.0003	0.00031	
BoB	BoB	SOL	FRA	POTS	none	landings	0	0	0	0	0	0	0	0	0.00021	
BoB	BoB	SOL	FRA	POTS	SBcIIIart5	landings	0	0	0	0	0	0	0	0	0	
BoB	BoB	SOL	FRA	TRAMMEL	none	landings	0.11487	0.10342	0.16387	0.16025	0.17012	0.2155	0.23143	0.00345	0.0025	
BoB	BoB	SOL	FRA	TRAMMEL	SBcIIIart5	landings	0	0	0	0	0	0	0	0.15559	0.23116	
BoB	BoB	SOL	FRA	u10m	none	landings	0.0109	0.01095	0.01043	0.01639	0.02185	0.01378	0.01482	0.02917	0.02896	
Sum							0.2719	0.2384	0.3349	0.3124	0.3390	0.3567	0.3911	0.3233	0.4041	
check sum Fpar/F							0.5683	0.6584	0.7429	0.7475	0.7965	0.8009	0.9616	0.8273	0.8385	

Effort kW days running previous year baseline													
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012			
Effort plan/ TAC regulations not applicable as days at sea per vessel													
reduction													
Effort estimated	19072070	20119865	31433063	39178975	39620693	32638757	32584112	27362505	27039422				
						-0.18	0.00	-0.16	-0.01		2003-2011		
kW days at sea	2003	2004	2005	2006	2007	2008	2009	2010	2011	r	p	n	
	618667	656093	836309	0	0	0	0	0	0	NA	NA	3	
	0	0	0	942990	980041	776015	924272	902937	735220	0.225	0.668	6	
	0	0	0	0	0	880	0	0	0	NA	NA	1	
	0	48409	35499	161852	54377	18347	42007	60023	63140	NA	NA	8	
	15860	26032	35522	4104	438	0	0	0	1258	0.495	0.318	6	
	0	0	0	0	0	0	0	588	0	NA	NA	1	
	0	0	0	0	0	0	0	383146	749480	NA	NA	2	
	397865	421943	472463	598415	504995	411002	399497	119337	140365	0.837	0.005	9	
	0	0	0	0	0	0	0	26275	15838	NA	NA	2	
	1607633	1815567	3345574	3826232	2994200	2834696	2809728	2085039	1663436	0.365	0.334	9	
	0	0	0	0	0	0	0	775388	721197	NA	NA	2	
	235133	300458	601160	916800	858475	740526	740526	1064238	1125557	-0.278	0.468	9	
	0	0	0	0	0	0	0	110673	100302	NA	NA	2	
	183430	179275	191342	348466	278666	449815	449815	0	147204	0.162	0.701	8	
	0	0	0	0	0	0	0	0	12939	NA	NA	1	
	11003670	13058268	18462096	22354632	24659530	20854560	20727711	7036902	7272950	0.822	0.007	9	
	0	0	0	0	0	0	0	7321109	7302739	NA	NA	2	
	466646	540507	568973	756785	745857	770304	769989	808947	829863	NA	NA	9	
	3035742	1135975	3148397	4076421	3124058	888396	828481	1565259	1228870	-0.384	0.308	9	
	0	0	0	0	0	0	0	147222	184067	NA	NA	2	
	229673	347756	176851	187550	164883	24911	24911	647487	579451	0.533	0.14	9	
	0	0	0	0	0	0	0	45936	96457	NA	NA	2	
	1277751	1589582	3558877	5004728	5255173	4869305	4867175	480469	395241	0.9	0.001	9	
	0	0	0	0	0	0	0	3781530	3673848	NA	NA	2	
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
	19072070	20119865	31433063	39178975	39620693	32638757	32584112	27362505	27039422	0.453	0.307	7	

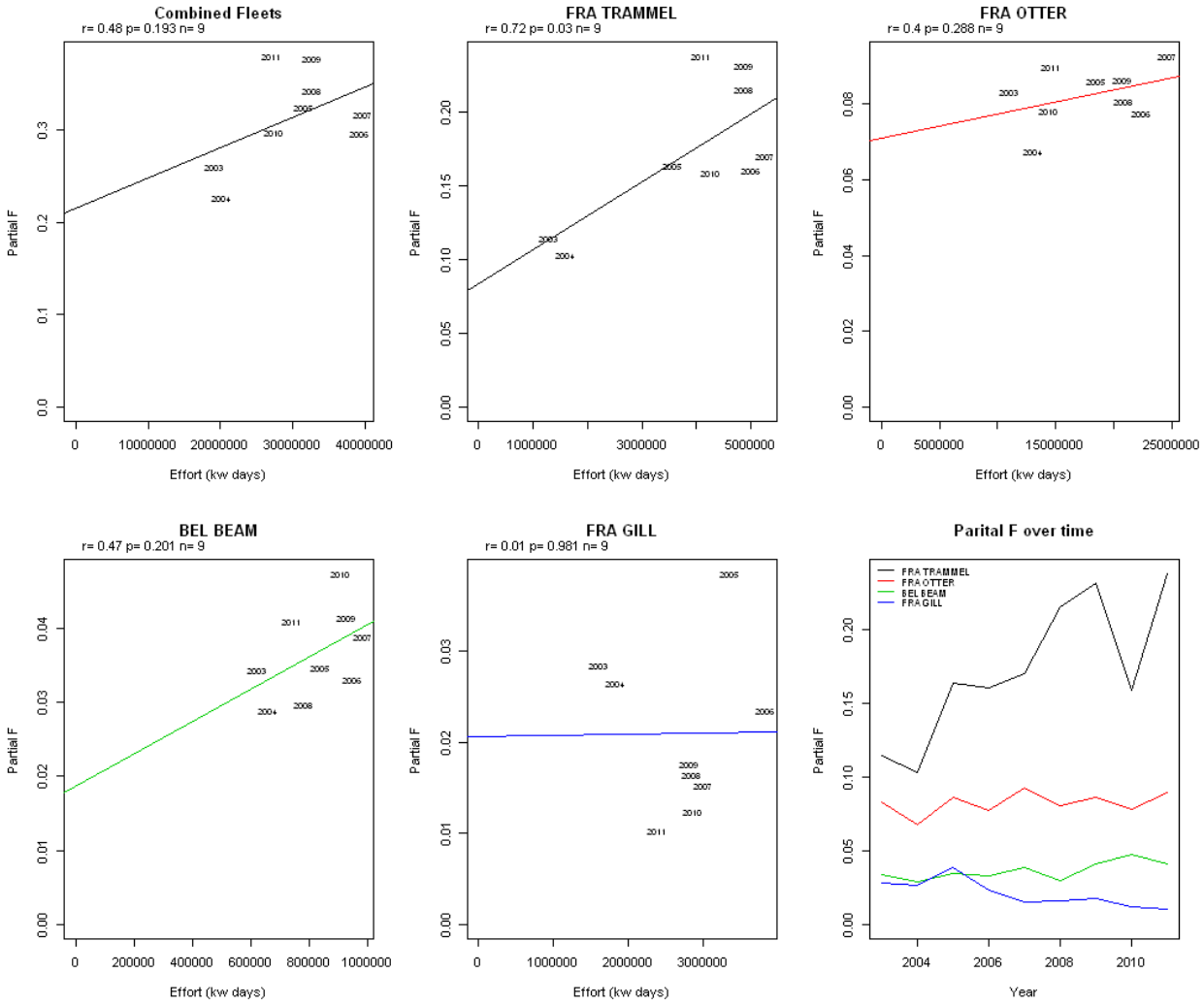


Fig. 5.10.9.1 Bay of Biscay sole. Partial fishing mortality (based on harvest rate estimates) over effort (kWd) of major fisheries, 2003-2011. R = Pearson's coefficient of correlation, p value to quantify the statistical significance (≤0.05). Note that the panel called combined fleets includes all regulated and unregulated. Note that Spanish data are not available.

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8 LIST OF BACKGROUND DOCUMENTS

Background documents are published on the meeting's web site on: http://stecf.jrc.ec.europa.eu/web/stecf/ewg12

List of background documents:

1. EWG-12-12 – Doc 1 - Declarations of invited and JRC experts.
2. EWG-12-12 – Doc 2 – Digital appendixes (EXCEL spreadsheets) to the present report: Fisheries specific parameters (fishing effort, landings, discards, landings and discards at age, catch per unit of effort, spatial effective effort, ranking by catch and landings, partial fishing mortality by fisheries and correlations with fishing effort).

European Commission

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Title: Scientific, Technical and Economic Committee for Fisheries (STECF) - Evaluation of Fishing Effort Regimes in European Waters Part 2 (STECF-12-16).

STECF members: Casey, J., Abella, J. A., Andersen, J., Bailey, N., Bertignac, M., Cardinale, M., Curtis, H., Daskalov, G., Delaney, A., Döring, R., Garcia Rodriguez, M., Gascuel, D., Graham, N., Gustavsson, T., Jennings, S., Kenny, A., Kirkegaard, E., Kraak, S., Kuikka, S., Malvarosa, L., Martin, P., Motova, A., Murua, H., Nord, J., Nowakowski, P., Prellezo, R., Sala, A., Scarcella, G., Simmonds, J., Somarakis, S., Stransky, C., Theret, F., Ulrich, C., Vanhee, W. & Van Oostenbrugge, H.

EWG-12-06 and EWG 12-12 members: Ulrich Rescan, C., Vanhee, W., Barrett, K., Kovars, M., Van der Kamp, P. H. J., Carlshamre, S., Radtke, K., Davie, S., Raid, T., Vermard, Y., Dolder, P., Silva, C., Holmes, S., Zolubas, T., Kempf, A., Demaneche, S., Gonzales Herraiz, I., Kuzebski, E., Rosa, I., Lovgren, J., O'Hea, B., Gil Herrera, J., Mitrakis, N., Rätz, H.-J.

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Abstract

STECF notes that the present report repeals the report entitled "Scientific, Technical and Economic Committee for Fisheries (STECF) - Evaluation of Fishing Effort Regimes in European Waters Part 1 (STECF-12-09) and published earlier in 2012. This report represents corrected, updated analyses and is supplemented with outstanding tasks and additional Terms of Reference.

STECF presents its review of the EWG 12-12 which has extensively addressed the ToR regarding the fishing effort regime evaluations in the

1. Eastern and Western Baltic,
2. the Kattegat,
3. the Skagerrak, North Sea, European waters in ICES Div.2 and the Eastern Channel,
4. to the West of Scotland,
5. Irish Sea,
6. Celtic Sea,
7. Atlantic waters off the Iberian Peninsula,
8. Western Channel,
9. Western Waters and Deep Sea,
10. and the Bay of Biscay.

It is noted that compilations of fisheries specific data by regime and Member State are provided as electronic appendixes and can be downloaded at http://stecf.jrc.ec.europa.eu/web/stecf/ewg12 in order to facilitate transparent dissemination of the information and further use.

Due to the complexity of the fisheries information provided, interested users are advised to consult the data quality notes and data notations provided in the present report.

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The Scientific, Technical and Economic Committee for Fisheries (STECF) has been established by the European Commission. The STECF is being consulted at regular intervals on matters pertaining to the conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations.